AIR CONDITIONING HEATING & REFRIGERATION NEWS

The Newspaper of the Industry

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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Stories of the Week
Quotes of the Week
Air Conditioning Could Keep You Out of Jail
Nixon vs. Rockefeller
Russian Refrigeration
Knight Blackout
Sour Grapes
Add Newspaper Boners

Stories of the Week

Small boy at a church-run summer camp insisted he had to be home by Saturday noon. A counselor made a special trip to drive him back.

When they arrived in town the lad asked to be let off at the bus station.

"I'm underprivileged," he signed, "and so I have to go to another camp."

Real estate salesman was pushing a weathered, run-down old house.

"Yes, I could have a lot of fun doing it over," agreed a female prospect. She was lost in thought for awhile.

"But then, that's what I told myself when I accepted my husband's proposal."

Bank robbers herded everyone present into the vault and banged shut the door. Everyone, that is, except a sole teller, whom they gunpoint-ordered to sweep all the cash into bags they gave him.

Upon completing his task the teller picked up three ledgers.

"Please take these, also," he begged. "I've been playing the horses, and I'm $14,000 short."

Quotes of the Week

Devote some time each day to mental and physical inactivity. Burning the candle at both ends may make a beautiful light, but the candle lasts only half as long.—DR. J. H. PECK.

Perhaps some of us miss opportunity because we are broadcasting when we should be tuning in.—*Mutual Moments.*

Air Conditioning Could Keep You Out of Jail

There's a sequence in York's admirable new color movie (if you haven't seen it yet, hurry, hurry!) which depicts a jury trial.

The judge is trying to keep reasonably alert in the hot-humid courtroom with a concealed electric fan at his feet.

(Concluded on Page 12, Col. 1)

NARDA Officer Attacks Extended Warranties, Central Factory Service

SAN ANTONIO—One of the most bluntly worded attacks on extended warranties and central factory service ever made by a representative of the National Appliance & Radio-TV Dealers Association (NARDA) came in the talk by A. W. Bernsohn, executive vice president of the group, in a talk before the Texas Electronic Association early this month.

"Why have a warranty armament race?" Bernsohn asked. "What's to be gained—and for how long—by letting warranties stretch out. What's to stop a single sturdy component guaranteed in one model for five years from enticing other manufacturers to start guaranteeing other parts for prolonged periods of time?

"And out of whose pockets does this generosity come? It's you who loses the parts sale!

(Concluded on Page 31, Col. 4)

Copper Workers Start Strike at Kennecot, Magma

DETROIT — Copper joined steel and aluminum last week as metals whose production is being curtailed by strikes. And, these same strikes are indirectly affecting production of lead and zinc.

Last week, the International Union of Mine, Mill, and Smelter Workers and the United Steel Workers struck the four major copper mining facilities of Kennecot Copper Corp.'s western division and Magma Copper Co.

Mine workers at Anaconda Co. and Phelps Dodge Corp., far from a settlement in contract negotiations, have threatened to strike this week. The union's contract with all copper producers expired June 30, but work has continued during negotiations.

At press time, no progress had been reported in union negotiations with major steel producers.

Lewin Mathes Co., Div. of

(Concluded on Page 4, Col. 5)

Utility Offers Gas Heat Financing on Nothing Down, 5 Years

MILWAUKEE—Customers of the Milwaukee Gas Light Co. who want to buy a replacement gas furnace can finance it on a "no down payment, and have the payments added to your monthly gas bill over a five-year period" basis.

The financing plan is part of an all-out campaign on the part of the gas utility to corral the replacement heating system market for gas-fired equipment. A "blanket" advertising campaign using newspapers, radio, and TV is being used.

Campaign emphasizes the role of "Mr. GH" the gas heating equipment dealer in modernizing heating systems. Dealers

(Concluded on Page 31, Col. 1)

July Air Conditioner Sales Boom—August Starts Good

DETROIT—Air Conditioning sales continued to boom during July in many areas of the nation, and in some instances the "season" was continuing on into August, according to reports from manufacturers and the field.

Fedders Corp., for example, said that its shipments of air conditioners at both factory and wholesale levels set all time records for the month of July. Usually a slow month for factory shipments, July was the second largest month of the Fedders 11-month fiscal period and more than doubled July, 1958.

As for distributor-to-dealer movement, Fedders Sales Manager Edward M. Becker said that July was the largest month of the year and topped last July by 71%. Becker said that the high rate of movement has depleted the factory stocks of all 2-hp. and high capacity 1-hp. models, as well as certain other numbers.

Heavy distributor orders for room air conditioners for many sections of the country with sell-outs posted on some models was reported by General Electric Co.

The central regional manager for one of the major producers of all types of air conditioning equipment said that orders from distributors in the latter part of July and August were "up remarkably, from last year, sometimes as much as three or four times greater."

He also said that the improvement in orders was "across the board" as far as products were concerned, and that the movement of the conventional water-cooled package air conditioner, thought to be a steadily declining item, had already doubled quotas for the year in some areas.

He also reported shortages and depletion of merchandise, and said some distributors prob-

(Concluded on Page 22, Col. 1)

BEHIND PAGE ONE . . .

COMMERCIAL Air Conditioning
200 Tons of Cooling Installed for New U. S. Post Office In Kalamazoo 14
How Roller Rink, Turned Discount House Was Air Conditioned without Ductwork 30

INDUSTRIAL Air Conditioning
200,000 Rats, Mice Kept Comfortable with Complicated Air Conditioning System 26

RESIDENTIAL Air Conditioning
'Silver Shield' Expands Training Course 15

- **Air Force Conference Report**
  Many Aspects of Evaporative Cooling Discussed 6
- **Fundamentals of Air-Moving Systems**
  (3) How Housings Affect Blower Wheel Performance 24
- **Industrial Refrigeration**
  Mobile Plant Provides Cooling for Two Fruit Processing Plants 400 Miles Apart 27
- **Technical Center**
  Instruments In Service Work (9) 28
- **Servicing Auto Air Conditioners** 32

Los Angeles To Decide Fate of Plan Signing Law

LOS ANGELES — Building and Safety Committee for the city of Los Angeles may decide by the end of this month whether or not mechanical engineers should sign plans for larger heating and air conditioning work before a permit is granted by the city.

The plan signing proposal has the support of the Mechanical Contractors Association of Los Angeles, the Associated Plumbing Contractors, and the engineering societies.

It is opposed by the Refrigeration & Air Conditioning Contractors Association of Southern California and the Sheet Metal Contractors Association of Southern California, it was reported.

Auto Cooler Not a Big Accident Cause, Experts Conclude

LOUISVILLE, Ky.—An automobile air conditioner is no more of a contributing factor to traffic accidents than many other factors in the operation of a motor vehicle, experts here agreed following a fatal accident in which a driver pointed to air conditioning as being partly to blame.

A Louisville woman who had already been in one accident was being driven to a hospital in a police cruiser when it was struck by another auto, resulting in injuries which proved fatal to her.

The driver of the auto involved in the accident told police his car windows were closed and his air conditioner on, and that he neither saw the police car nor heard its siren.

(Concluded on Page 4, Col. 5)

Westinghouse Wins NEMA 'Snowman,

NEW YORK CITY — The "Snowman" award, the air conditioner field's "Oscar" award for an outstanding promotion job, has been won by the Westinghouse Electric Corp. room air conditioner department.

This is the first year in which this award has been made. It was established by the Room Air Conditioner Section of the National Electrical Manufacturers Association for the manufacturer who made the outstanding contribution to the "Beat the Heat" promotion.

The "Snowman" award is in the form of a statuette of a snowman holding an air conditioner. A noted sculptor, John Russell Ridge, was commissioned to design the "Snowman" statuette.

Novi Moves Auto Cooling Output To Los Angeles

DETROIT—The Novi Equipment Co. is currently moving its automobile air conditioner production equipment and inventory to its Los Angeles plant where production will be immediately started on its 1960 models, Lewis W. Welch, president, declared here recently.

Novi sold its manufacturing plant and governor business in Novi, Mich. to Continental Motors Corp. of Detroit and Muskegon on Aug. 1. Its auto air conditioners had been produced at this plant.

Although manufacturing will be conducted in California, the general offices of Novi Equipment Co. and its subsidiary dis-

(Concluded on Page 31, Col. 1)

PHCIB To Expand Sales Training Program, Following Successful Pilot Course

CHICAGO — Encouraged by the success of its pilot sales training course for plumbing, heating, and cooling contractors, the Plumbing, Heating, and Cooling Information Bureau has announced that it is planning to make the course available for broadest use.

In the near future, PHCIB's Sales Training Council said, it expects to offer its first "train the trainer" course to qualify instructors locally to conduct the program.

The pilot training program, continued over a 20-week period in the test city of Dubuque, Iowa, will come to an end on Sept. 3. It's objective was to present certain basic, time-proven sales facts that, when put to use, result in increased profitable business.

The course was divided into 10 sessions, each three hours long to permit full class participation, discussion, and practice. An action assignment was given at the end of each meeting.

The two-week interval between sessions allowed the contractor to evaluate the usefulness of what he had learned as it applied to his own operation and to report back his estimate of its practicality at the next class session.

The Sales Training Council indicated that the first course had proved it made the contractor receptive to additional training by PHCIB, by wholesalers, and by manufacturers.

The Council is already laying groundwork for additional training programs to answer other specific needs of contractors, wholesalers, and manufacturers.

As a token of its faith in the program, the Dubuque Association of Plumbing Contractors has contributed $100 in support of the PHCIB's continuing activities.

Dravo Conditioners Being Marketed by 'Correct-Air'

WILLOUGHBY, Ohio—James Campbell Smith, Inc., and its subsidiary, Correct-Air Corp., are now manufacturing and selling the former Dravo air conditioner for pulpits and crane cabs, the company has announced.

The units are being sold under the "Correct-Air" trade name.

James Campbell Smith, Inc. builds pulpits and crane cabs, according to the announcement.

Insulation Mfrs. Offer Consulting Service on Characteristics, Applications

NEW YORK CITY—An Insulation Information Center, for consultation by industry on insulation characteristics, application techniques, and specifications, has been established by the newly formed National Insulation Manufacturers Association, 441 Lexington Ave. here.

The service will be in charge of John M. Barnhart, association executive secretary, and Raymond C. Parlett, who has just been appointed technical adviser and chairman of the association's Technical and Research Committee.

NIMA represents companies who belonged to two organizations now dissolved—Industrial Mineral Insulation Manufacturers Institute and Magnesia-Silica Insulation Manufacturers Association—as well as other members. NIMA companies make insulations for the full temperature range of -460° F. to 1900° F.

"The prime reason for NIMA's formation is to give industrial and commercial users of insulation up-to-date information about all insulating materials," Barnhart said.

"Our association committees have access not only to NIMA studies and the research laboratories of their own companies but to data of the American Society of Testing Materials, American Society of Heating, Refrigerating & Air-Conditioning Engineers, the Building Research Advisory Board, and other societies."

Barnhart is a former instructor in thermodynamics, heat transfer, heat power, and hydraulics at Rensselaer Polytechnic Institute, from which he holds a degree in mechanical engineering. Prior to entering association work six years ago, he worked as a design engineer for Western Electric Co. and the New York Central Railroad.

Parlett has had 40 years' experience in industrial thermal insulation, covering research and development work as an engineer and department head. A licensed professional engineer in New York, Parlett has served as an adviser to the ASTM's C-16 committee on thermal insulation. He has been a representative to the National District Heating Association for many years and will continue to work with that group.

Members of NIMA are Baldwin-Ehret-Hill, Inc.; M. H. Detrick Co.; Eagle-Picher Co.; Fibreboard Paper Products Corp.; Forty-Eight Insulations, Inc.; Gustin-Bacon Mfg. Co.; Johns-Manville Sales Corp.; Keasby & Mattison Co.; N. L. Morell; Mundet Cork Corp.; Owens-Corning Fiberglas Corp.; Pittsburgh Corning Corp.; Pittsburgh Plate Glass Co.; Refractory & Insulation Corp.; Ruberoid Co.; Union Asbestos & Rubber Co.

Molson's Brewery Gets 'Largest' Single Acting Ammonia Compressor

TORONTO, Ont., Can.—What is claimed to be the largest single acting ammonia compressor ever installed on the North American continent was set up recently at Molson's Brewery Ltd. here.

The 406.5-ton capacity, four-cylinder compressor was manufactured by J & E Hall Ltd. of England. It is powered by a 700-hp. Westinghouse synchronous motor at 257 r.p.m.

It doubles the refrigeration capacity of the Molson plant.

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Kelvinator To Build $2 Million Warehouse In Grand Rapids

GRAND RAPIDS, Mich. — Kelvinator will build a $2 million warehouse, totaling 330,000 sq. ft., for the storage of major appliances at a site on 44th St. near U. S. Highway 131, George Beld, works manager, announced recently.

Cost includes construction and warehouse equipment for the new building. Construction of the warehouse is expected to begin by early September with the building ready for use in six months.

Contract for construction of the one-story, concrete block and aluminum siding building has been awarded to C. D. Barnes & Associates of Grand Rapids.

The new warehouse is a further step by Kelvinator to improve its competitive position in the appliance industry by increasing its warehousing efficiency and reducing costs.

Decision to build the warehouse was strengthened by consolidation last December of basic manufacturing at the main plant through the transfer to Grand Rapids of Peoria laundry appliance production and Detroit compressor production, it was indicated.

Named Wagner Pres.

G. W. Brown

GEORGE W. BROWN was recently elected president and chief executive officer of Wagner Electric Corp. following the death of J. H. Devor. Brown joined the company in 1926, was elected a director in 1956, and became executive vice president in 1958.

N. Y. State Tightens Mechanics' Lien Law

NEW YORK CITY—Contractors in New York state will gain new protection against credit losses as a result of changes in the state's mechanic's lien law which take effect Sept. 1.

Under the new law, a building loan or mortgage taken out by the owner becomes a trust fund.

This means that the loan will be considered misappropriated if used for payments other than those connected with the particular building or contract and any diversion of the fund will be considered larceny, according to Benjamin S. Zorwitz, executive vice president of the Jobbers Credit Association.

An amendment to the law provides that the claimant may repossess unused materials when the contract has been abandoned, not only by the owner, but by the contractor or sub-contractor, Zorwitz pointed out.

Glass Will Address RACCA Convention

WASHINGTON, D. C.—J. P. Glass, president of Chase Supply Co., Chicago, and past president, Air Conditioning & Refrigeration Wholesalers Association, will speak before the annual national convention of the Refrigeration & Air Conditioning Contractors Association (RACCA) Sept. 27-30 in Los Angeles.

In a change in the program as originally published in the Aug. 10 issue of the NEWS, Glass will speak on "How the Wholesalers Can Pave the Way for Contractors Profits." This talk had originally been scheduled for delivery by William Miessemer, vice president of ARW.

Queen Products Ups Lickteig, Crobaugh

R. J. LICKTEIG

C. P. CROBAUGH

ALBERT LEA, Minn. — Appointment of R. J. Lickteig to vice president and general sales manager of Queen Products Div., King-Seeley Corp., was announced recently by R. C. Trow, vice president and general manager of the division.

Succeeding Lickteig as sales manager of the Scotsman ice machine department is C. P. Crobaugh. Crobaugh was formerly field sales manager for Scotsman.

In his new position, Lickteig will have charge of sales and advertising for the Scotsman ice machine, K-Appliances, and Superflame departments. C. J. Murphy and R. M. Wamsley will continue as sales managers for the Superflame and K-Appliances departments.

Trow also announced the retirement of C. E. Holmquist as credit manager of the division and the appointment of M. H. Isackson to succeed him. Holmquist had been with Queen for 31 years. Isackson was formerly assistant credit manager.

Copper Strike--

(Concluded from Page 1, Col. 2)

Cerro de Pasco Corp., however, reported that it had entered into a new wage agreement with the United Steel Workers covering employes at its Monsanto, Ill. plant. The contract runs til July 31, 1962.

The pact involves a 9.5 cents per hour adjustment of wages and fringe benefits in the first year, a 5 cents an hour wage increase in the second year, and inauguration of a pension plan in the third year equivalent to a 16.5 cents per hour increase.

Accident--

(Concluded from Page 1, Col. 4)

Local newspapers raised the question of whether auto air conditioners might constitute a hazard. But Lt. John Keaney, acting City Traffic Bureau head, said it was the first time he had heard an air conditioner mentioned as an accident cause.

"What difference would there be between summer driving with the air conditioner on and normal winter driving? Your windows are rolled up then too," Keaney said.

Louisville Auto Club Manager Eugene Stuart said he knew of no other accident in which air conditioning was a factor. County Police Chief Edwin Richardson said closed windows plus conversation among passengers might reduce a driver's hearing, but "the air conditioner shouldn't have too much to do with it."

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"My boss was a push-over for Chrysler Air Conditioning. It's got everything he wanted . . . and then some. Like all-weather operation. With this Chrysler exclusive, whether it's 120° above, or 5° below—we've got Spring."

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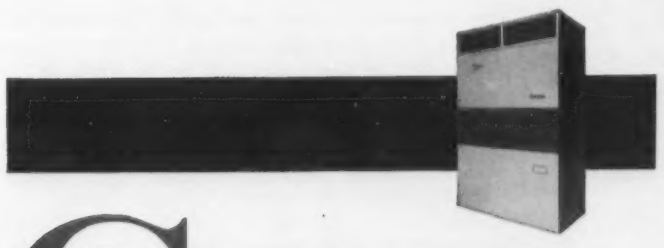

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AIRTEMP

FIRST WITH THE FINEST IN AIR CONDITIONING

Many Aspects of Evaporative Cooling Discussed During Symposium at U.S. Air Force Conference

DAYTON—Numerous aspects of evaporative cooling — economics, sizing, new applications, combination systems, and operation and maintenance — were discussed by a six-man symposium conducted during the Refrigeration and Air Conditioning Conference held by Headquarters, U. S. Air Force at Wright-Patterson Air Force Base here.

In areas where it is commonly applied, evaporative cooling for comfort runs about 20% of the cost of a mechanically refrigerated air conditioning system, declared Robert L. Burnam, executive secretary of the Air Cooling Institute.

To illustrate this difference, Burnam compared the costs of evaporative and mechanical cooling over a five-year period in two types of structures: a 1,500-sq. ft. house with 12,000 cu. ft. of space, and a large open building 40 by 100 ft. with 40,000 cu. ft.

Equipment sizing and cost, he explained, were based on common practice and rates in the Wichita Falls, Texas area, where the institute's headquarters are located.

A 4-ton mechanical system in the house would represent a total cost over five years of $3,151, according to Burnam, who broke it down as $1,000 for equipment, $1,100 for installation (wiring, ducts, etc.), $250 for maintenance, and $801 power costs (based on five months operation per year at 1-cent per kwhr.).

In contrast, a 6,000 c.f.m. evaporative cooler system in the same house (providing an air change every two minutes) would cost $666 over the five-year period, he said, breaking down the total as $170 for equipment, $250 for installation, $125 for maintenance, and $121 for power cost.

(Although several in the audience privately questioned the sharp difference of installation costs — $250 compared with $1,100 — the matter was not brought up in open discussion.)

For the larger building, the five-year cost of a mechanically refrigerated system using a 15-ton unit was estimated by Burnam as $7,321, made up as follows: $3,500 for equipment, $1,500 for installation, $300 for maintenance, and $2,021 for power cost.

Evaporative cooling for the same building, according to Burnam, would total $1,696.50 for five years, as follows: $680 for equipment (two 10,000 c.f.m. units), $450 for installation, $300 for maintenance, and $266.50 for operation.

"In designing an evaporative air cooling system, the first consideration is to determine, as nearly as possible, the actual climatic condition of the area, that is, the range and frequency of simultaneous wet-bulb and dry-bulb temperature readings and other data to assist in determining air design temperatures," explained Orvel M. Johnston, vice president, Wright Mfg. Co.

Next the total sensible heat load for the building or space should be computed (the latent heat load is ignored), and from this, with the temperature rise in the building, can be determined the required air volume, Johnston said, through the formula:

$$\text{c.f.m.} = \frac{\text{Sensible heat load B.t.u.h.}}{1.08 \times (\text{Temp. rise in building})}$$

Cautioning that this method is "quite complicated," Johnston suggested the results should be checked against the rule-of-thumb method of determining required rate of air changes.

"This method," he explained, "generally requires a three-minute air change in the most arid areas under favorable heat load conditions and increases the air volume to one and a half air changes per minute under conditions of abnormal internal heat such as a large number of people, heat-producing machinery, and in areas with high humidity conditions."

For duct sizing, Johnston recommended using the equal friction method.

"Air duct systems for evaporative cooling usually run through the attic with ceiling air diffusers or through furred-down hall or closet spaces with wall air registers," he continued. "Both diffusers and registers should be of the type and large enough to give air distribution and not be restrictive so as to create air noise.

"Important, too, is that all registers should be located, if possible, opposite from where the air is to be discharged," he added.

Adequate Openings Must Be Provided

Necessity of providing adequate openings, such as windows, doors, or exhaust fans to exhaust air from the space was emphasized by Johnston. There should be not less than 2 sq. ft. of free outlet area for each 1,000 c.f.m. entering the room, he said.

How evaporative cooling systems can bring relief to workers in such "hot spots" as laundries where mechanical cooling would be prohibitive in cost was outlined by Robert S. Ash, assistant to the president, International Metal Products Co.

Referring to the ASHRAE effective temperature chart and other data, Ash commented that "the effective temperature will be reduced approximately 50% of the dry-bulb or wet-bulb temperature reduction when there is no change in the other temperature component. . . .

"Recognition of these relationships between air cooling through water evaporator and effective temperature can be put to practical use in providing relief cooling of 'hot' areas with little regard to geographical location," Ash asserted.

In a typical laundry, he explained, which has exhaust hoods over such equipment as flatwork ironers, etc., about 65% of the delivered hourly boiler horsepower is sensible heat.

"A properly designed evaporative cooling system will re-

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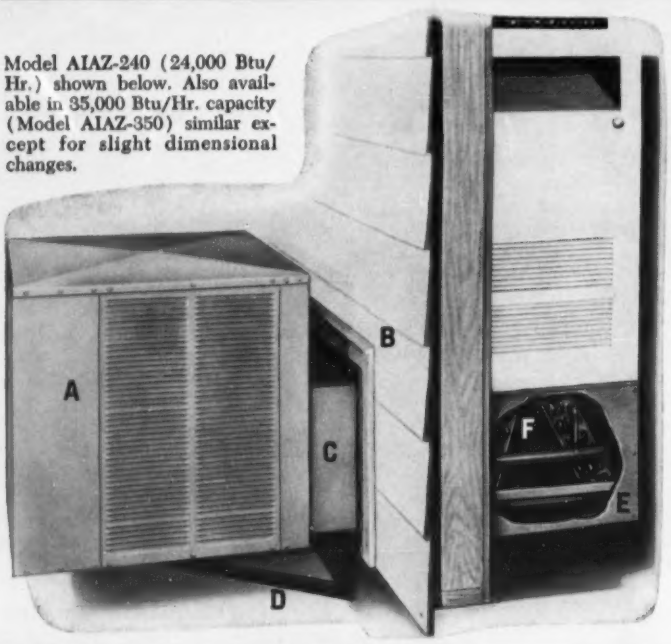

Model AIAZ-240 (24,000 Btu/Hr.) shown below. Also available in 35,000 Btu/Hr. capacity (Model AIAZ-350) similar except for slight dimensional changes.

Here's how easily Trans-Wall Unit adds Dry-Cool comfort to any style home

- **A** Air-cooled, factory-assembled Trans-Wall Unit slides into
- **B** Wall opening 14" x 24" (AIAZ-240; 17¾" x 24" for model AIAZ-350).
- **C** Collar encloses wiring and refrigerant tubing; extends through sealed wall opening and
- **D** Condensing Unit rests on outside mounting brackets, furnished.
- **E** Coil housing installed under (or above) vertical furnace, or at end of horizontal furnace.
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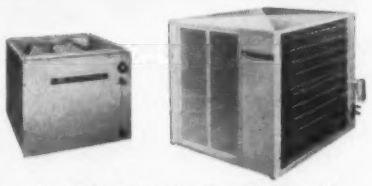
Sales potential? If a homeowner now has a furnace located at an outside wall of his home or is installing a new furnace, he already has two-thirds of this air conditioning system—thanks to the amazing Frigidaire Trans-Wall Unit. You can get a new boost to builder business, too, by installing the low-cost special coil plenum and sealed-up wall-opening during home construction, then installing Trans-Wall Unit later at home buyer's option. The builder gets extra selling power and you get extra profit. Call your Frigidaire Representative now for more Trans-Wall data, or write Frigidaire Division, General Motors Corporation, Dayton 1, Ohio.



Air-Cooled Condensing Units and Big-Capacity "Dry-Cooling" Coils

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Frigidaire advanced Dry-Cooling—designed with you in mind...

cools, cleans and dries the air!

duce the temperature in a laundry from 5° to 10° below outside temperature," Ash declared. "With mechanical ventilation laundries usually exceed the outside temperature by at least 10°."

Air distribution should be designed for a maximum throw of not more than 30 ft., and a minimum circulated velocity of 100 to 200 f.p.m. should prevail, he said.

Use of spot cooling in exceptionally hot areas or in buildings with high ceilings or relatively few workers should also be considered, Ash suggested, and he advised that to avoid lint problems exhaust fans should be equipped with automatic shutters so lint won't blow back into the room when the fans stop.

Methods of testing and rating evaporative coolers were described in another paper by Ronald Zablodil of the Naval Civil Engineering Laboratory and Prof. John R. Watt of the University of Texas.

Laboratory tests on various sizes and types of coolers conducted at the university were outlined, and a method of checking performance of evaporative coolers in the field was suggested.

In another paper devoted to controls for systems combining evaporative cooling and heating, Sidney F. Duncan, director of research, Farr Co., recommended that "though complicated and costly control systems can be devised, the controls be kept as simple as possible.

"It is also recommended that the use of humidistats on such systems seldom prove beneficial and so are a needless expense," Duncan declared.

"Though humidistats are not too useful on evaporative cooling for comfort, they may be a necessity on industrial applications where the humidification (evaporative cooling) units are used in cold weather," he stated.

"An industrial process atmosphere requiring a certain relative humidity and temperature will have to control the amount of humid air mixed with the heated air. The cooling so obtained will activate the thermostat to call for the heat required to maintain the desired temperature," Duncan explained.

"Such a system might be arranged to cut off the evaporative equipment at some limiting humidity. Usually this condition will obtain only after the need for heat has passed," he said.

Duncan described "a practical system now operating on a chapel at George Air Force Base near Barstow, Calif. which combines a steam coil for heating with a two-stage evaporative cooling system. A single duct system is used, but the blower motor is two speed, the low speed being half of full speed. The control system uses a "heat," "off," "cooling" master selector switch.

"On heating," Duncan explained, the blower runs at half speed and a modulating valve in the steam line is responsive to a thermostat. An over-riding duct discharge thermostat prevents discharge of air at lower than 60° F.

"On cooling the blower runs at full speed. A two-stage thermostat first starts the evaporative cooler only. At a pre-set higher temperature the thermostat starts the circulating pump on the cooling tower pre-cooling [water] coil circuit to get maximum cooling. No attempt is made to control humidity," Duncan said.

Routine start-up and maintenance procedures for evaporative coolers were reveiwed by Richard Peterson, chief engineer, Utility Appliance Co., in a paper prepared jointly with Robert Abbott, general manager, Palmer Mfg. Co.

These would include checking blower for correct rotation and speed, alignment of pulleys and belt tension, lubrication of bearings, proper water flow, proper placement of pads, and the like.

Where water supply is hard, bleed-off or blow-down of the sump water is a must, the authors explained. While the amount of water to be dumped will vary, for average conditions the amount will be about 50% of the water evaporated.

THIS
$75,000 CALIFORNIA HOME
CALLED FOR A DUCT SYSTEM
OF THE HIGHEST

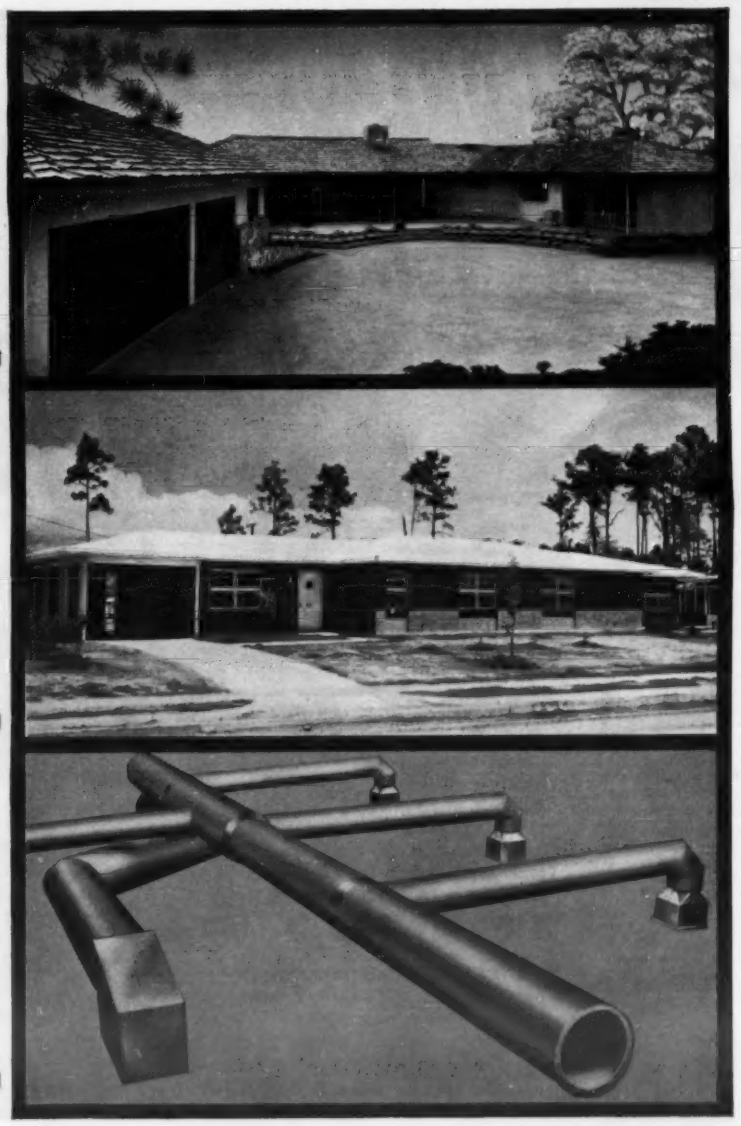
quality..

AND IN THIS
800-UNIT CAPEHART HOUSING
PROJECT, EMPHASIS WAS ON

economy..

IN BOTH CASES
CONTRACTORS INSTALLED

G-B Duct..



If you're interested in satisfying both price- and quality-conscious customers, next time specify G-B Duct—the first and only prefabricated round glass fiber duct tested and labeled by Underwriters' Laboratories as an air conditioning and heating duct.

With G-B Duct you get quality performance because the uniformly thick glass fiber walls provide thermal insulation and maximum sound absorption. Also, the continuous airtight plastic vapor barrier sleeve positively prevents condensation.

And installing G-B Duct is economical, too, because with G-B Duct you get a neater, better job—faster. G-B Duct comes in one-piece 6′ sections, ready to use—no preassembly, no folding. It's easy to cut and fit with a knife and the templates are provided. Sizing is no problem because G-B Duct is made in the same nominal sizes as round sheet metal pipe and fittings.

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Electronic Computers, Two-Way Radio Speed G-E Room Air Conditioner Service

LOUISVILLE, Ky.—"The application of electronic data processing equipment and modern communications methods to General Electric's room air conditioner servicing operation has produced not only more prompt and efficient repairs for the customer, but also a better product," A. T. Taft, product service manager, said recently.

Taft based his statement on an evaluation of the department's new air conditioner product service program.

Formally instituted a year ago, it has been a significant factor in a 15% decrease in warranty service calls on G-E room air conditioners, one of the manufacturer's best indications of product quality.

"Under the new system, distributors forward service tickets to the department's Louisville headquarters," it was explained. "Coded and then processed by the 'Univac' computor, these reports give an immediate and accurate prediction of future service calls by model and complaint.

"This information enables service departments to have on hand an adequate supply of replacement parts and provides a guide for servicemen to spot future trouble areas faster."

Coupled with an expanding two-way radio communication system in major cities between repairmen and their service headquarters, this means that customer complaints are speedily serviced, according to G-E.

"Quick reporting to headquarters is facilitated by General Electric's closely affiliated sales and distribution, which also makes it possible for the factory to clear a faulty part from stock in a day's time, thus protecting the customer from a possible second failure," it was pointed out.

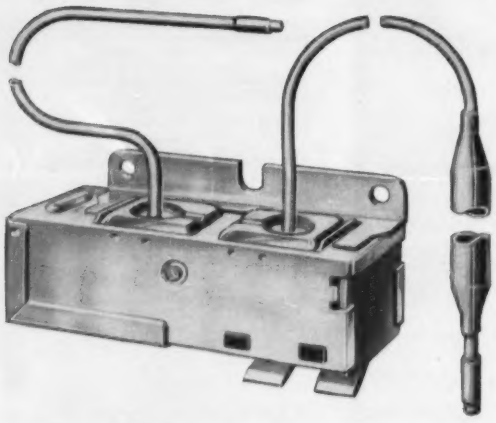
"From the standpoint of product quality, this system makes possible a quick playback of information to the department's manufacturing, engineering, and design sections.

"Regular reports on individual complaints, costed by parts and labor, are compiled from the processed data. These reports furnish an extremely accurate evaluation of the correction of service problems, leading to more dependable, trouble-free products.

"Because General Electric's room air conditioner department operates on a year-round basis, improvements in design and manufacture can be made almost immediately. For example, reports on broken terminals in one model run were received in late May and the correction to relieve the strain causing this began in early June.

GENERAL ELECTRIC product service manager, A. T. Taft, examines Univac analysis of room air conditioner service calls. Under the company's new room air conditioner product service program, electronic computor is utilized to predict future service calls by model and complaint, enabling service departments to stock indicated replacement parts.

HEAT PUMP CONTROL IS SIMPLE, EFFICIENT AND AUTOMATIC WITH THESE RANCO CONTROLS

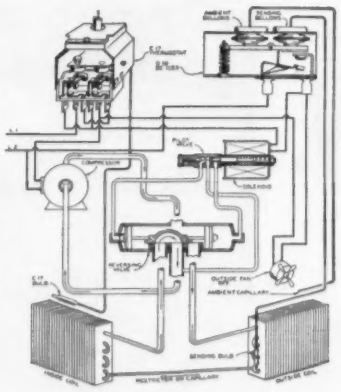


D50 DE-ICER CONTROL—Ranco D50 and D52 De-Icer Controls are the only Controls which detect coil ice quickly and automatically. Efficiently simple, they are actuated only by presence of ice on outside coil. Sensing bulb and ambient power element give control at coil. D50 is SPST, D52 is SPDT.

V25 REVERSING VALVE—Ranco V25 and V26 Reversing Valves are slide-type, pressure differential operated. Hermetically constructed with single pilot valve integral with main valve. Special by-pass prevents compressor overload during transfer period. Capacity up through 7½ tons with different valves. Solenoids available in 24, 115, 208, 230 volts with 50 or 60 frequency cycles.

Here is the heart of a heat pump system—controls and valves from Ranco to make operation simple, efficient and automatic in a wide range of climatic conditions. Combine these reversing valves and de-icer controls with a standard cycling thermostat and you give your customers completely automatic, reliable heating-cooling control.

The entire operation is simplicity in itself:



HEATING PHASE: Pilot valve solenoid is energized causing pressure differential to move slide in Ranco Reversing Valve. System operating to remove heat from the outside coil may cause a build-up of ice. As the ice accumulates on outside coil, heat exchange between coil and ambient air is reduced, lowering refrigerant temperature.

DE-ICING PHASE (diagram above): Increase in spread temperature over the clear coil temperature is sensed by the cross ambient bulb to set the Ranco De-Icer Control in action. Temperature drop opens switch to stop fan and de-energizes pilot valve solenoid operating the reversing valve to transfer heat in unit to the outside coil. All ice is removed in 3-5 minutes and coil temperature increases rapidly to close switch that terminates de-icing cycle, starts fan motor and re-energizes solenoid to return unit to heating phase.

COOLING PHASE: Limited vapor charge in ambient air element immobilizes De-Icer Control contacts in closed positions at ambients above 48° F. permitting fan operation through the De-Icer Control. Cooling is thus achieved by the same refrigerant flow as in de-icing and the compressor is operated by temperature demands of the thermostat.

For information, write for Bulletin 1687-1 "Automatic Heat Pump Operation" or Technical Bulletins 1729 & 1712-1 on V25/26 Reversing Valves, or 1691-1 on De-Icer Control.

RANCO CONTROLS

Ranco® INCORPORATED
COLUMBUS 1, OHIO

More than 100 million Ranco Controls now in use

Fedders Sign on Broadway Now Blows Right Way

MASPETH, N. Y.—The air will be blowing in a different direction in Times Square this year thanks to a letter written to Fedders Corp. by a consumer.

Some months ago, Fedders received the letter complaining that there was something wrong with the circular air louver on the air conditioner that was painted on the Fedders sign in Times Square. On a real unit, this louver directs the flow of cool air from the air conditioner itself to any portion of a room.

The consumer noted that the sign showed an advertising message in the form of traveling letters being blown out of the louver of the gigantic 12 by 23-ft. air conditioner. However, she reasoned, the direction of the louver would have necessitated that the "air" be blown downward—toward Broadway—not to the left as on the sign.

It was her suggestion that either the advertising message likewise go downward or else that the direction of the louver be changed to be consistent with the direction of the flowing message.

Douglas Leigh, Inc., owner of the sign, felt that it would be much easier to change the direction of the louver and they have done so on the 1959 Fedders model that was just painted on the sign.

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FACTORY
PROCESSING EQUIPMENT
• Pressurized Tracer Gas Units • Portable Refrigerant Charging Stations • 5 Unit Rough Vacuum Stations • Precision Laboratory Chargers • Leak and Moisture Indicators • High Vacuum Pumps and Accessories
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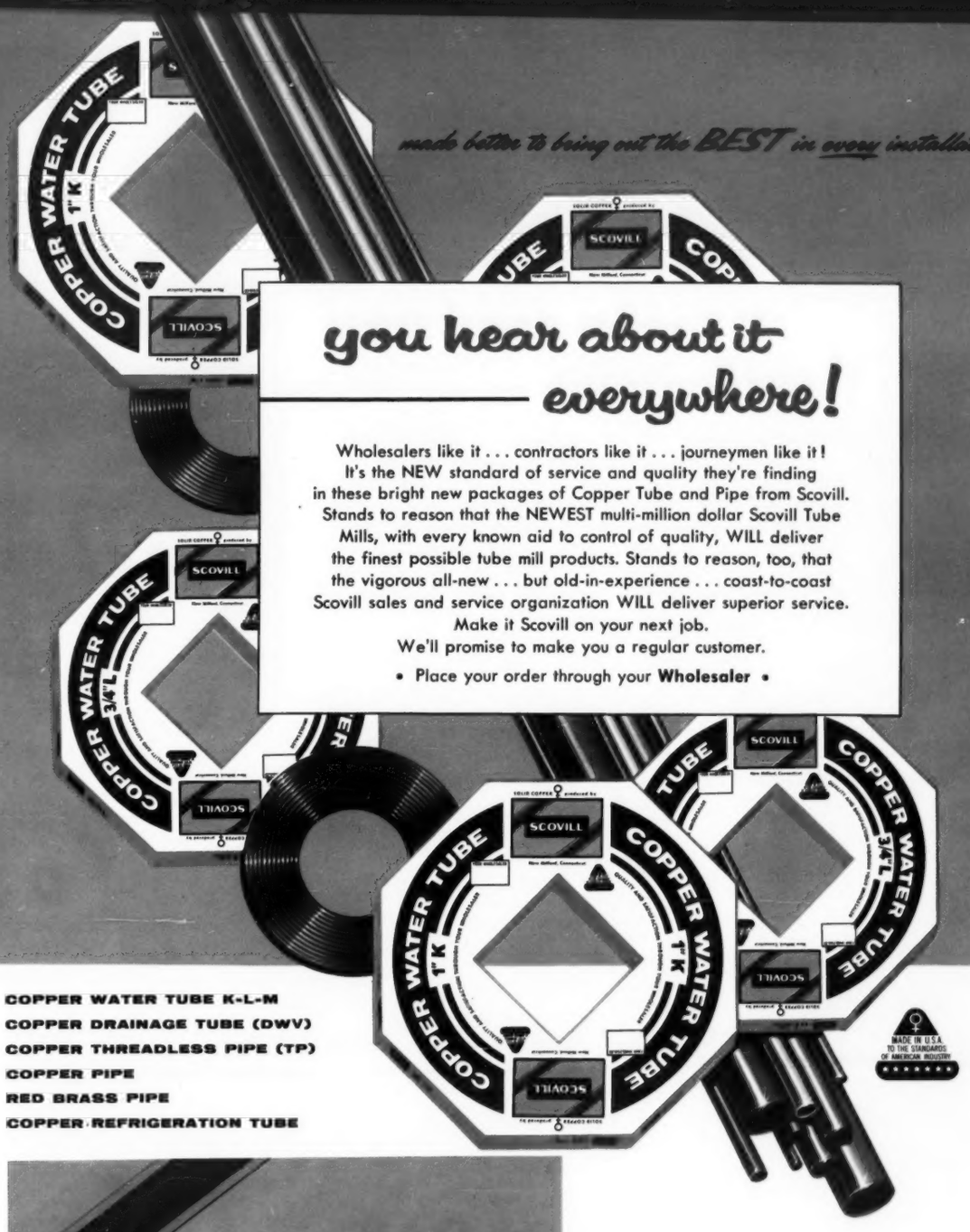

you hear about it — everywhere!

Wholesalers like it . . . contractors like it . . . journeymen like it! It's the NEW standard of service and quality they're finding in these bright new packages of Copper Tube and Pipe from Scovill. Stands to reason that the NEWEST multi-million dollar Scovill Tube Mills, with every known aid to control of quality, WILL deliver the finest possible tube mill products. Stands to reason, too, that the vigorous all-new . . . but old-in-experience . . . coast-to-coast Scovill sales and service organization WILL deliver superior service. Make it Scovill on your next job. We'll promise to make you a regular customer.

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COPPER WATER TUBE K-L-M
COPPER DRAINAGE TUBE (DWV)
COPPER THREADLESS PIPE (TP)
COPPER PIPE
RED BRASS PIPE
COPPER REFRIGERATION TUBE

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

SCOVILL®

is the **new** standard in

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"SATISFABRICATED" TO SUIT YOUR REQUIREMENTS

Self-Contained Unit
With Evap. Condenser Type SCU

From 11 Basic Models
30 Possible Combinations

Self-Contained Unit
Multi-Zone Type SCMZ

From 11 Basic Models
50 Possible Combinations

Self-Contained Unit
Shell and Tube Type ST

From 13 Basic Models
25 Possible Combinations

Self-Contained Unit
Multi-Zone Type STMZ

From 13 Basic Models
25 Possible Combinations

Horizontal Air Conditioner
Type GHC

From 14 Basic Models
56 Possible Combinations

Vertical Air Conditioner
Type GVC

From 14 Basic Models
56 Possible Combinations

Multi-Zone Air Conditioner
Type GMZ

From 14 Basic Models
84 Possible Combinations

Evaporative Condensers
Type EC

From 14 Basic Models
28 Possible Combinations

*ChillPak Water Chiller
Type CPS

From 10 Basic Models
68 Possible Combinations

*Cabinet models available with built-in or remote evaporative condenser.

ORIGINATORS AND DEVELOPERS OF COMPLETELY PACKAGED AIR CONDITIONERS

NATIONAL REPRESENTATION IN PRINCIPAL CITIES. SEE YOUR LOCAL YELLOW PAGE PHONE DIRECTORY.

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WRITE FOR FURTHER INFORMATION ON ANY SPECIFIC UNIT, OR SEE OUR LISTING IN ASHACE "GUIDE."

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Whirlpool Creates 4 Vice Presidencies

ST. JOSEPH, Mich. — Elisha Gray II, chairman, announced that the board of directors of Whirlpool Corp., meeting here recently, created four additional vice presidencies, and elected John Platts, Robert Willemin, Johnston Livingston, and Glenn Evans to the new offices.

Platts, as vice president and general manager of the Evansville Div., will have full responsibility for the development and production of refrigerators, upright freezers, air conditioners, dehumidifiers, and aircraft components manufactured at that division.

As vice president and secretary, Willemin will continue to serve as counsel for the company in both patent activities and general legal matters, and, as secretary of the company, will continue to maintain official records and documents and the registry of stockholders. Evans was named vice president for laundry products divisions.

Evans, Platts, and Willemin will report to R. E. Brooker, president.

Livingston, as vice president for "Coldspot" sales, will report to Gray. Livingston will be located at Evansville. He will work closely with the Sears refrigeration buying departments and the Evansville and St. Paul divisions.

R. C. Upton, vice president for "Kenmore" sales, will continue to be responsible for the company's over-all Sears relationship.

Universal Silencer Granted Charter

LIBERTYVILLE, Ill.—A corporation charter has been granted to the Universal Silencer Corp. here, which will provide consultant and engineering services to users of industrial, locomotive, and marine silencing equipment.

Universal, specifically, will design intake and exhaust silencers for internal combustion engines, centrifugal and rotary positive blowers, exhaust silencers for both water seal and positive displacement compressors, exhhaust silencers for gas, air, and steam vents, and spark arresters for locomotive and marine applications, the announcement said.

Robert L. Hoyle has been named company president; Edgar S. Stoddard, vice president; Ernest F. Durava, secretary-treasurer.

"Universal's management team represents over 50 years of experience in the design and installation of noise abatement equipment," it was pointed out.

American Potash Nevada Plant In Full Production

LOS ANGELES — American Potash & Chemical Corp. has begun full production at its Henderson, Nev. plant of anhydrous lithium chloride for use in metal products manufacturing as well as other applications, including air conditioning and dehumidifying.

Southwest Purchases Land for Expansion

AURORA, Mo. — Southwest Mfg. Co. has purchased several acres adjoining its plant here.

Roy C. Hauck, president and general manager, described the purchase as necessary to the corporation's plan of continued progress in the conditioned air and allied fields.

Southwest, a wholly-owned subsidiary of the F. E. Myers & Bro. Co. in Ashland, Ohio, manufactures and markets residential and light commercial heating and air conditioning equipment under its trade names, "Heatwave" and "Southwest."

Similar equipment is produced for the trade on an O.E.M. basis as well as several components used in the parent company's product line, it was noted.

Chattanooga Royal Catalog

CHATTANOOGA, Tenn. — Availability of a new 8-page, full-color catalog combining gas-fired, forced-air furnaces and residential air conditioning into one brochure has been announced by Chattanooga Royal Co., Chattanooga 6.

Drayer-Hanson Prepares for Golden Anniversary

LOS ANGELES air conditioning manufacturer Drayer-Hanson is already laying the groundwork for its Golden Anniversary Jubilee which comes up in six months. First in a series of expansion moves is a new building about to rise adjacent to main-office administration building and the Industrial building. Taking the "first crack" at the new construction, here General Manager Harold T. Hunt gains departmental support from key administration staff—Plant Manager Fred Savaglio and to the rear (l. to r.), Chief Engineer A. J. Mallinckrodt; Bill Keichline, Hunt's assistant; and Irv. Secord, sales manager air conditioning/refrigeration products.

Century Electric fhp motor installed on double entry blower.

Why Century Electric motors give quiet, dependable service

Century Electric motors designed for the air conditioning and warm air heating industry help reduce costly service calls. Here are a few of the features that give quiet, dependable operation.

QUIET BECAUSE cushion base has resilient rings which keep motor from metallic contact with base. Result: reduced transmission of sound vibrations.

QUIET BECAUSE it has sleeve bearings. The shaft floats on a film of oil. You can pull the belt up without getting any bearing rumble.

QUIET BECAUSE rotor bars, end rings and fans are all integrally cast of aluminum. Rotor is dynamically balanced to assure extra smooth operation.

DEPENDABLE BECAUSE lubricating method is designed to withstand warm air furnace operating conditions.

DEPENDABLE BECAUSE insulation consists of bonded paper and "Mylar" slot cells and high temperature baking varnish. Result: high mechanical and dielectric strength.

DEPENDABLE BECAUSE of features like trouble-free governor; automatic thermal overload protection; positive grounding strip on cushion rings and pressure cast aluminum bearing brackets.

Also available: Two-speed motors for combination heating—air conditioning units; and 56-frame motors when half horsepower capacity and larger is required. For more information contact your nearest Century Electric Sales Office or Authorized Distributor.

CENTURY ELECTRIC COMPANY

St. Louis 3, Missouri *Offices and Stock Points in Principal Cities*

Century 59-20

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

Defense attorney perspires, wilts, stammers. . . .

And the jurors either are dozing or irritable. This gives rise to a sobering thought:

How many innocent men have been sent to prison, how many lawsuits won by crooks, because courtrooms weren't cooled?

Nixon vs. Rockefeller

We are not among those cynics who sneer that Vice President Nixon's tour of Russia and Poland was merely a publicity stunt designed to help him get the 1960 G.O.P. nomination.

To those who insist upon looking at things thusly, how about that Rockefeller?

He took the front pages away from Nixon by getting his son engaged to a former servant in his household—a Cinderella who also just happened to be a photogenic blonde from Norway! (Or so a cynic might think.)

Incidentally, that son has sharp political instinct, too.

"This marriage has been planned for a long time," said Steven Rockefeller, "but I saw no sense in bragging about it."

Keep your eye on that Steve. If his father doesn't make it, he might.

Russian Refrigeration

Hint as to the U.S.S.R.'s refrigeration development appears in a *Wall Street Journal* interview with a Russian "industrial complex" manager, a comrade Rozhchenko.

"This year," he stated, "we've got to double the capacity in our meat industry. We've got all the materials to make the refrigerators, except the compressors.

"I went down and talked to the economic council chairman in Krasnodar and to the director of a factory there that makes compressors. They said they could make the compressors but were short on heat exchangers.

"We agreed to give them some of the metal allocated to our region, so they could make the compressors, and one of our factories agreed to make some heat exchangers for them."

This sort of non-planned, mutual back-scratching, Mr. Rozchenko confided, goes on all the time, despite Communism's theoretical dedication to Organizational Planning.

Knight Blackout

Mel Knight, ebullient Peerless of America sales manager, ruminates:

"Everything is farther than it used to be. It's twice as far to the station, for instance, and they have added a hill, I've noticed. I've given up running for my train . . . it leaves faster than it used to.

"Seems to me they are making staircases steeper than they used to make them in the old days. And have you noticed the small print they are using.

"Newspapers are getting farther and farther away when I hold them, and I have to squint to make out the news. No sense in asking to have them read aloud.

"Everyone speaks in such a low voice that I can hardly hear them.

"The barber doesn't hold a mirror behind me any more so that I can see the back of my head.

"The material in my suits is always too skimpy around the waist, and in the seat. And shoe laces are so short they are all but impossible to reach.

"Even people are changing. They are so much younger than they used to be when I was their age.

"On the other hand, people my own age are so much older than I am.

"I ran into an old classmate the other night, and he had aged so he didn't recognize me. I got to thinking about the poor old fellow while I was shaving this morning.

"While doing so, I happened to glance at my own reflection in the mirror.

"Confound it! They don't even use the same kind of glass in mirrors anymore!!"

Sour Grapes

Anybody who can live on love probably operates a drive-in movie.

The trouble with women is that they're either too young, too old, or indifferent.

Conscience is what hurts when everything else feels good.

The man who delighted in chasing girls now has a son who can't find any who will run.

This isn't the beat generation, it's the gone generation. Every time anyone tries to put his foot down they aren't there.—*Saturday Evening Post.*

By the time a man thinks he understands women, he's no longer interested.

How to make a million: Dream up a product that costs a dime to make, sells for 98 cents, and is habit-forming.

By the time we discover that money doesn't grow on trees, often we're out on a limb.

Add Newspaper Boners

Castro To Play Baseball With His Supporters. — *Springfield* (Ohio) *Daily News.*

Big Isle GOP Candidates Blame Democrats for Texas.—*Honolulu Star-Bulletin.*

Soviet Male Looks Like Raffle Rouser, Gals Toss Curves.—*Cleveland Plain Dealer.*

Weather Bureau To Do Away With West Texas. — *El Paso Times.*

Marriage Ends Over Mother's Seat.—*Royal Oak* (Mich.) *Tribune.*

Horse Show Salted At Fort Deposit. — *Montgomery* (Ala.) *Alabama Journal.*

But a Greek named Polybius went along for the ride, and in his memoirs he mentioned that Hannibal's army spent the ninth day of their expedition in a snowball at a mountain pass.—*Detroit Times.*

Bing, Debbie, Bob in Cast of Broad's Next Feature.—*Columbus Dispatch.*

Frankie Ryff became so discouraged because he cut easily around the eyes that he was going to hang them up and become a cab driver. — *Omaha World-Herald.*

New low-cost, high-capacity

thermostat

controls several circuits with a

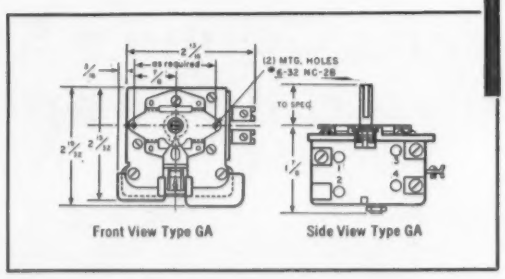
single dial

WILCOLATOR SERIES GA PROVIDES OFF—FAN ONLY—FAN and COOLING

In the new Wilcolator Series GA thermostat, a built-in switch—cam operated by the dial shaft—makes it possible to control several circuits with a single dial and disconnect more than one line when the dial is in Off position. In air-conditioner applications, this provides for Off, Fan Only, and Fan and Cooling.

Featuring an improved snap-action switch for higher contact ratings, these compact, low-cost thermostats have ample capacity for heavy duty appliances and medium industrial requirements. Amplitude factory set to your specifications. Contact mechanism not affected by vibration. Can be used with any dial or pointer having a ¼-in. shaft hole.

For more information, write The Wilcolator Company, 1001 Newark Ave., Elizabeth, N.J. *In Canada:* Wilcolator (Canada) Ltd., 221 Evans Ave., Toronto 14, Ont.



SPECIFICATIONS

Standard temperature range: 0°F min.; 585°F max.

Special temperature ranges: To customer's requirements

Type G1-A: Contacts open on temperature rise

Type G2-A: Contacts close on temperature rise

Contact rating: (Type G1-A) 30 amp, 125 and 250 v a-c noninductive load

Motor ratings: (Type G2-A) 120 to 240 v a-c; running current—14 amp; locked rotor—60 amp

Mounting: Back of panel or in enclosure

Terminals: Screw type, AMP or Arkles; standard shaft size—¼ in. flatted to .156 in.; length to customer's specifications

THE Wilcolator COMPANY

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ALL WILCOLATOR THERMOSTATS ARE UL LISTED AND APPROVED

Central, Forced Air, Electric Furnace Said To Have Capacity To Heat 3-Bedroom House

PORTLAND, Ore. — Design and manufacture of a central, forced air, electric furnace claimed to have suffcient capacity to heat the average three-bedroom home was announced by Wesco Furnace Div. of Northwest Foundry & Furnace Co. here.

Key to the engineering of the unit is reported to be the development of an energy-control system to prevent overload of transformer equipment, making the system economically feasible, according to W. R. Pindell, vice president and general manager of the firm.

Engineering and testing of the units over a period of more than two years has resulted in the decision to make the furnace in three sizes in both horizontal and downflow design.

The three sizes will deliver 34,150, 51,225, and 68,300 B.t.u., Pindell said. List prices are $430, $515, and $590, f.o.b. Portland, minus trade discounts, it was stated.

Because the furnace requires no flue, it can be placed in the attic, in floor crawl space, or hung from the basement ceiling, in a location designed for best distribution of conditioned air, Pindell pointed out.

Outside air, humidity control, and air filtering are included in the system. Electronic air cleaners and refrigeration coils for air conditioning can be installed in the system.

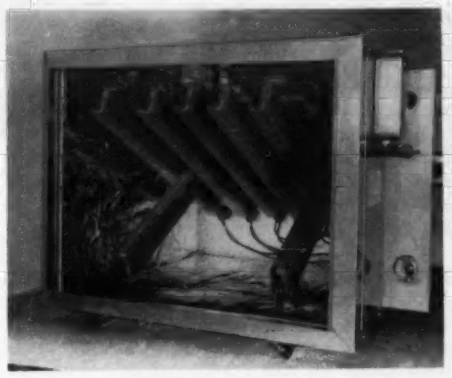
Heat is transmitted without loss through finned strip heaters which cannot char dust particles in air entering rooms, Pindell said. Heaters are controlled by contactors in banks of 5 kw. which are actuated by a two-stage room thermostat.

"A timed delay device makes it impossible for more than 5 kw. to come into service at any moment, thus preventing excessive loads on transmitter equipment," it was stated.

All furnaces are 4 ft. long by 17¼ in. on one side. The other side is 16 or 21 in., depending on the capacity.

The new furnace will carry the same Wesco name that has been on oil, gas, and solid fuel furnaces made by the firm for many years.

Plans are to market the furnace world-wide, Pindell said.



HEAT for the new Wesco furnace is transmitted through finned strip heaters which cannot char dust particles in air entering rooms, according to the firm.

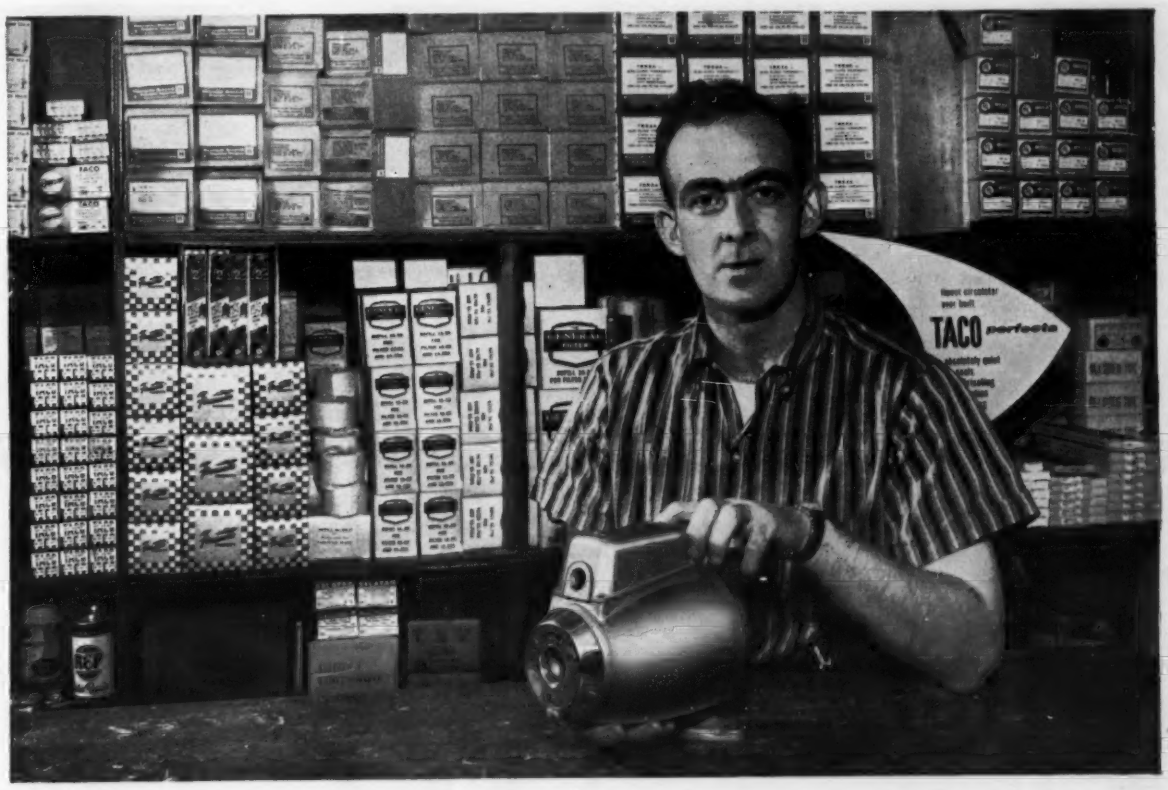
VIEW of control panel showing time delay device which makes it impossible for more than 5 kw. to come into service at any moment.

Viking Air Products Names Walter Gerhardt

CLEVELAND — Dick Gang, general sales manager for Viking Air Products, has announced the appointment of Walter B. Gerhardt as Viking's dealer salesman for the Chicago area.

Gerhardt is Viking's first direct factory representative calling exclusively on plumbing and heating dealers. He will assist the Viking distributors in his area to introduce several new products.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.



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"Install this new Taco Perfecta and forget it! Because of its simple, sealed unit design, there are no seals, drive couplings or starting switches to cause service problems. This water-lubricated pump is the most maintenance free, service free circulator ever built.

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200 Tons of Cooling Installed for New U. S. Post Office Bldg. In Kalamazoo

KALAMAZOO, Mich. — New U. S. postoffice recently opened here is fully equipped with air conditioning, a system totaling more than 200 tons having been installed by Garlock Insulating Co. of Lansing and Kalamazoo.

System as finally installed cost considerably less than that originally called for, according to R. B. Garlock, president of the contracting firm.

At first it was planned to locate equipment on a penthouse and run most of the ductwork outside on the roof of the building, which is mostly of one-story construction with a two-story section at the front.

But the contractor suggested running the ductwork in the space itself, thus eliminating the need for duct insulating and weatherproofing, the penthouse, and the structural members needed to support the penthouse and equipment.

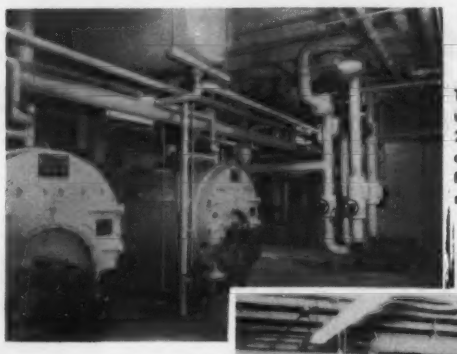
"After all," Garlock explains, "the work area of a postoffice is a factory to all intent and purposes, so there's no real need to conceal ductwork in the conditioned space."

That changing the design of a system for a government building could be negotiated so readily resulted from the fact that the Post Office Dept. leases the building from a private owner, who had it built to meet government specifications. The owner and builder is Harry Forman, who has built several other postoffice structures, including one in Lansing, Mich., for which Garlock also supplied air conditioning and heating.

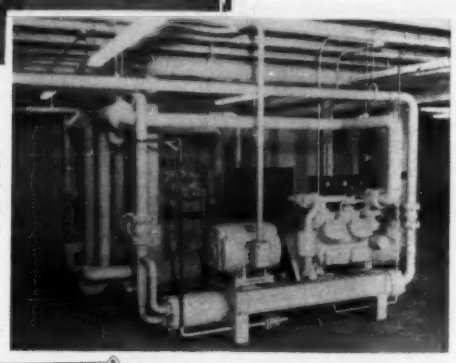
Basically the system for the Kalamazoo postoffice, an 81,000-sq. ft. structure, consists of ducted air for cooling and perimeter radiation for heating.

Two Carrier condensing units in a basement machinery room provide the source of cooling. These are water-cooled units connected to two Marley towers located on the roof.

Chilled water from two Acme chillers is piped to eight Carrier air-handling units scattered throughout the building by two Bell & Gossett pumps. Three other pumps of the same make handle the heating.



TWO Carrier condensing units totaling more than 200 tons connected to Acme chillers supply chilled water for air conditioning the new U. S. postoffice in Kalamazoo, Mich.



HEATING for Kalamazoo postoffice is handled partly by gas unit heaters and hot water from these two Webco-Ray oil-fired boilers.

Radiation for heating consists of Trane units, but there are 14 Carrier gas unit heaters installed in vestibule areas.

Hot water for radiation is supplied by two Webco-Ray oil-fired boilers. Twelve centrifugal exhaust blowers are also provided in the system.

Temperature controls are Barber-Colman pneumatic.

Architect-engineer of the building was Stapert-Pratt-Bulthuis-Sprau & Crothers, Inc. of Kalamazoo.

Garlock, in addition to making the air conditioning and heating installation, also has a 20-year maintenance contract on the equipment, as the firm does on its system in the Lansing postoffice.

In this connection, incidentally, the firm has encountered the fact that cleaning filters can be a more serious problem than anticipated.

"In the Lansing postoffice we've found that paper particles from the mail handled will clog filters in about three weeks," Garlock disclosed.

Mechanical Contractors Name Thomas J. Ryan Executive Secretary

NEW YORK CITY—Thomas J. Ryan has been named executive secretary of the Mechanical Contractors Association of America, Inc.

Having formerly served as special assistant to the general counsel of the National Labor Relations Board, Ryan "is exceptionally well qualified to assist the association in the formation of policies pertaining to labor-management relations and proposed legislation affecting the industry," it was said.

As a 1949 graduate of Columbia University Law School, Ryan engaged in private civil practice before entering government service.

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"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
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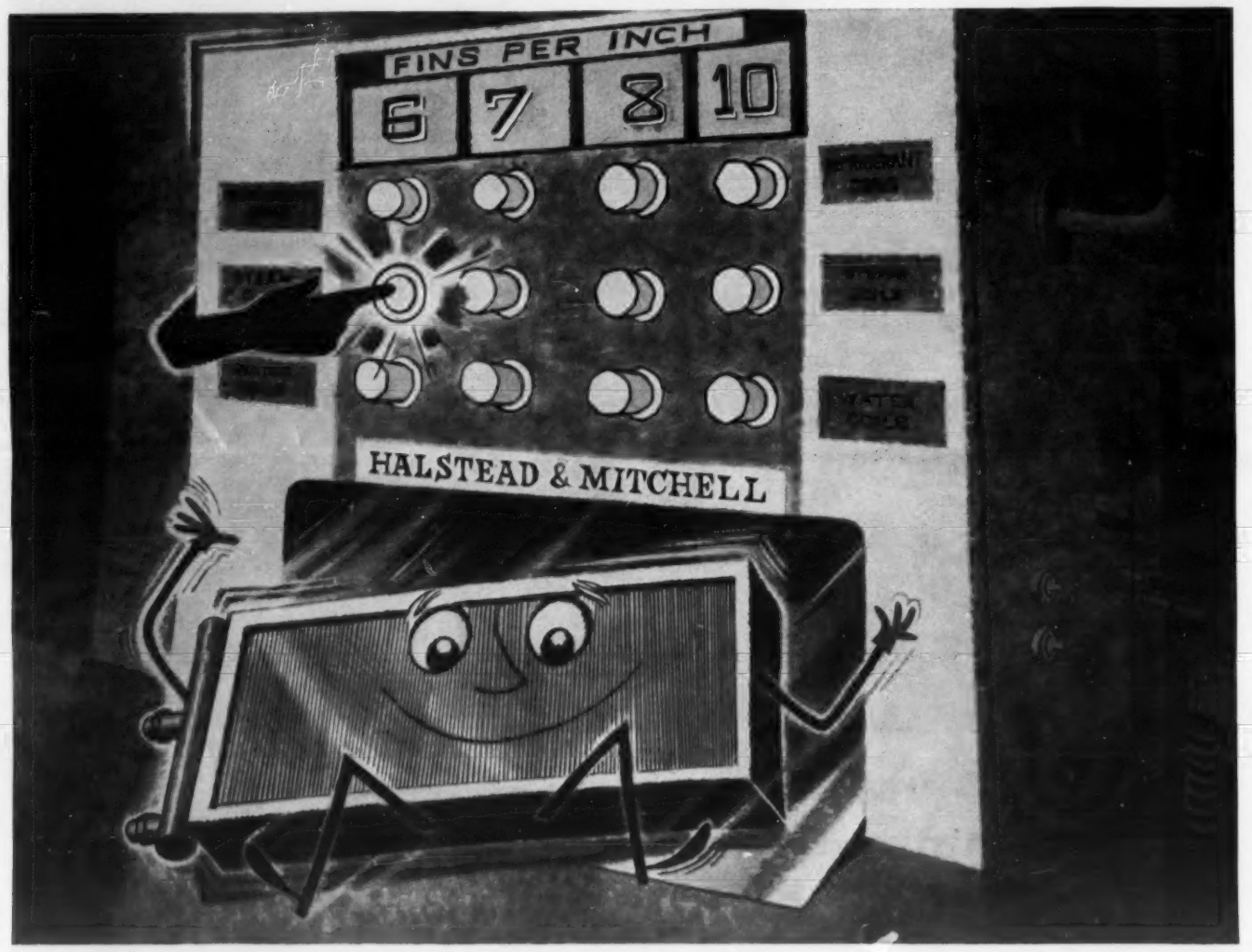

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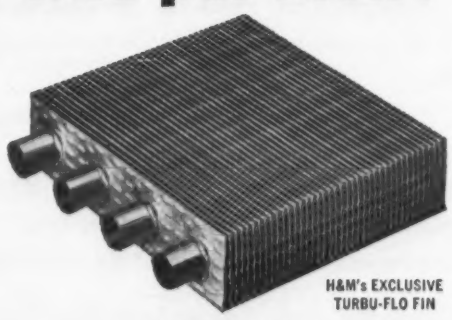

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'Popularity and Demand' Cited

NWAHACA Expands Silver Shield Training Program from 8-Week to 12-Week Course

CLEVELAND—Expansion of the Silver Shield training program to meet a greater demand was announced by George Boeddener, managing director of the National Warm Air Heating & Air Conditioning Association.

The training program is being used throughout the nation to implement and prepare dealer-contractors for installation of Silver Shield systems, it was reported.

Organized under the direction of Herbert T. Gilkey, technical director of the association, the original program called for eight weeks of training in local cities and towns.

"But," Boeddener said, "the popularity and demand for the training has been so great, that we have expanded the curriculum from eight to 12 weeks."

The Silver Shield training program consists of 12, 2½-hour sessions conducted on a one-session-per-week basis. It covers the design, installations, adjustments, and balancing of both Silver Shield winter air conditioning and summer air conditioning systems in all types of residential structures.

This supplements the regular university short course program of the association that is held at American universities and colleges in the late winter and early spring of each year, Boeddener explained.

The managing director said he believed that many of the dealer-contractors will attend the short course educational program after having been exposed to a Silver Shield training program in their own home town.

Another new aspect of the Silver Shield training program is that it is handled by the local dealer group itself. It is a required activity in the establishment of a Silver Shield Program in any city or town. Instructors consist of local experienced application engineers obtained from industry, university, colleges, or utilities.

In addition to providing counsel and guidance to local Silver Shield groups organizing Silver Shield training programs, the association provides them with a complete instructor's guide which details each of the 12 lessons and also covers other pertinent information to aid instructors in conducting the course.

"Also, students' kits, containing all pertinent manuals, worksheets, house plans, a scale, and scratch pad, are available from the association," Boeddener said, "and their use is mandatory in the training program."

The Silver Shield training course is open to all dealers who are interested in attending it in cities in which it is held.

Two cities, Kalamazoo and Lansing, Mich., have completed their Silver Shield training programs and have graduated 56 students, the association points out.

Silver Shield training programs now being conducted in Rochester, N. Y. (45 students); Nashville, Tenn. (30 students); and Niagara Falls, N. Y. (35 students).

In Philadelphia, the training program was scheduled to start in mid-August. Over 100 had been enrolled as of a recent date.

Cities where training will start shortly are Grand Rapids, Milwaukee, and Sharon, Pa.

Briefly the 12-session program covers the following subjects:

(1) Learning heat loss calculations, (2) types of perimeter systems and location of supply outlets and return inlets, (3) heat loss on a house with basement and crawl space plenum, (4) materials and contractors of perimeter systems, (5) crawl space plenum supply system and design of return system for a slab house.

(6) General procedure for use of Manual 9 and heat loss calculation for split-level home, (7) locating and sizing of registers, stack, branches, returns, for supply and returns, (8) designing supply and return trunk ducts.

(9) Calculating heat gain, (10 selecting equipment and designing of year-round air conditioning system, (11) locating, size and design of return stack, inlets and return ducts for year-round system, and (12) balancing and adjusting systems for maximum comfort.

Students are given home work assignments at every class, and a final examination is given during the 12th session.

Lima, Ohio Area Dealers Get Story Of Silver Shield

LIMA, Ohio—At a meeting held at the West Ohio Gas Co. auditorium here, some 50 heating and cooling dealer-contractors from throughout the greater Lima area got first hand, the full story of the Silver Shield concept that is spreading throughout the entire United States.

Silver Shield is the name given to a promotion and organizing program developed by the National Warm Air Heating & Air Conditioning Association of Cleveland.

Arrangements for the meeting were made in cooperation with John Paul Timmerman, chairman of the Silver Shield Organizing Committee, it was announced.

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3 ton model, includes evaporator and condensing unit.

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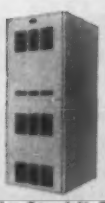

Counterflow Forced Air Furnaces
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Fan & Blower* types 25-50-75-100-125-150-175-200-225,000 BTU. All feature Diamondglas Heat Exchanger. *Can be connected for use with air conditioning.

Horizontal Forced Air Furnaces
80-100-120-140,000 BTU. Also available equipped for air conditioning.

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TAKES HIM AN HOUR TO GET INTO THAT MINSTREL SUIT EVERY NIGHT-AN' HE INVENTED A FLAT THERMOS BOTTLE TO FIT INTO A BRIEF CASE···
THINGS AIN'T WHAT THEY SEEM, AS THE FELLA SEZ- THE PRESIDENT OF THE OUTFIT SHOWS UP LOOKING LIKE A BRAKEMAN···
SAYING GOOD NIGHT TO THE MILL HAND WHO'S SORT OF LEADING A DOUBLE LIFE····
AND OUR HAT IS OFF TO AUGIE ROSS, DETROIT A.C. DETROIT, MICH.
6-18
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We Need To Replenish Our Manpower

THE SKILLED craftsman is a vanishing breed. Who says so?

U. S. Dept. of Labor statistics indicate that, while the population of the United States has increased by 14 million people in the past five years, the number of skilled workers under 28 years of age has declined by 25%.

What is worse, Labor Secretary James P. Mitchell finds a "shocking lack of interest" among young people in preparing for skilled occupations.

He forecasts a need for an additional two million "servicemen" (installers and repairers—not G.I.'s) in the U. S. by the year 1965.

People close to our industry believe the need will be much, much greater—and sooner.

Why this lack of interest in craftsmanship? Government officials offer two possible reasons.

One is that the pay incentive for entering skilled occupations has been reduced, comparatively.

With unions continually demanding blanket increases for ALL dues-payers, the differential between a skilled worker and an untrained person in terms of the pay envelope has thinned considerably.

A second factor is reluctance on the part of a surprising number of unions and employers to provide needed apprentice training opportunities for recruitees.

In many trades the number of workers who die or retire in a given year more than doubles the number of new journeymen introduced to the craft by labor trades' bosses. (Some unions do this deliberately, to maintain an artificial scarcity of their dues-payers.)

The air conditioning, heating, and refrigeration industry, we must concede, has its share of troubles.

Our need for more skilled workers long has been recognized and trumpeted by the NEWS, and by national associations involved with our business.

To our industry's credit, a few local associations are taking first steps toward proselyting more trained men through apprentice training agreements between unions and contractors.

But, to our discredit, we are not moving fast enough to establish adequate educational facilities and courses of instruction for these recruitees. And we are doing precious little to attract bright young men at the high school graduate (or college freshmen flunkees) levels.

To take advantage of these opportunities for replenishing industry manpower—when they are made available—a promotional campaign would seem necessary.

To visualize the extent of this problem, please take this single-question quiz, yourself, Mr. Subscriber:

If a teen-ager should ask you HOW he could get into the refrigeration and air conditioning industry (as an installer or serviceman) what would you tell him?

Sales Potential Depends on Service Performance

REPEATEDLY in recent editorials AIR CONDITIONING & REFRIGERATION NEWS has emphasized the dogged fact that:

Profitable Sales Volume Depends Upon Satisfactory Service.

Following letter from a valued subscriber states this case with an interesting new angle.

Wappingers Falls, New York

Editor:

Re: The Forgotten Necessity.

Reading through various trade papers, including your own, we find manufacturers holding wholesaler meetings, dealer meetings, and contractor meetings; but, rarely, do we find area meetings for the independent service-repair organizations.

In my years (35) in the service-repair field I have observed that in a majority of cases after the installation, the installing contractor has no interest in the "after-servicing" of the installation.

It is a known axiom that consumer satisfaction means (a) good consumer relations, (b) good consumer relations leads to a good product-public name-standing, and (c) a good product standing means ease of future sales.

Why, then are we, the independent service-repair organizations, forgotten and neglected in the manufacturer's area service instruction gatherings? We, in the independent service-repair field ask for nothing; but, to obtain product knowledge for better and quick service-repair for the consumer.

HENRY F. BOEHM, JR.

Editor's Note: Mr. Manufacturer: Does this shoe fit *your* emphasis, attitude, and program?

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

CAUTIONS AGAINST USING CO_2 IN CLEARING PIPE LINES FROM AMMONIA GAS

Robert Brack
Zurich, Switzerland

Editor:

Under "Industrial Applications," on page 25 in the May 18 issue of AH&RN, John Herzog suggests the use of CO_2 in clearing pipe lines from ammonia gases. I would like to caution him and all other engineers from doing so, on account of my own bad experience a year ago.

We pressure tested with CO_2 an additional compressor and its discharge and suction line, etc., which were connected to closed shutoff valves of an ammonia plant, which was in operation since a year. We noticed, that the CO_2 pressure faded away after a few hours, although no leak could be found.

Then we observed that the new compressor was jammed, and when we opened it, we found each and every part in it covered with a white crust. The same had happened to the suction and discharge line, and the pipes both on the inlet and outlet of the shutoff valves were completely full of this salt-like material. You can probably imagine what a time we had cleaning everything.

What had happened? These two shutoff valves, which had been tight before, had begun to leak, probably when the CO_2 pressure exceeded the ammonia pressure. CO_2 leaked into the ammonia, and vice versa, and both had turned into a solid

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compound. From handling "Freon" plants, we were used to CO_2 as a convenient and fully harmless gas, and had thought it would serve the purpose on an ammonia job as well. In fact, it had done so previously, when we pressure-tested the nearly installed plants, while of course no ammonia was about, and the CO_2 was exacuated out of the system before charging with ammonia.

I always read the NEWS with great pleasure. Your reports on your recent tour "around the world in 80 days" were wonderful in every way. Pity you skipped Switzerland. Hope to meet you here next time.

ROBERT BRACK

REBELS AND FORANIS BECOMING WARM FRIENDS

Recold International Corp.
Los Angeles, Calif.

Editor:

I thought you might be pleased to hear that Mrs. Rebel and I had a very pleasant visit with Mrs. Forani of Belgium, who spent a few days here in Los Angeles. She certainly is a most charming and talented person and as my wife is beginning to be quite a well-known portrait painter, the two ladies had many interests in common.

Today I received a letter from Mr. Anthony Forani of Brussels, telling me he had heard from Mrs. Forani and I thought you would like to know that the quite amusing exchange of letters in the NEWS ended into, what I believe will become, a very warm friendship.

ALBERT REBEL

For Your Reprint Copy
"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
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8-17-59

Air Conditioning, Heating & Refrigeration News
450 W. FORT STREET
DETROIT 26, MICHIGAN

SAYS JESSE JAMES PLAYS ROLE IN OUR INDUSTRY AS WELL AS IN STEEL

Conditioned Air & Refrigerator Co.
Fresno, Calif.

Editor:

This is a somewhat belated reaction to your editorial in the June 8 issue of ACH & R News, "Jesse James in Pious Dress."

A lot of criticism has been aimed at the steel industry and in particular towards the unions in that industry for their wage demands. However, there are more people in the construction industry participating in the "annual steal" and certainly for a more infamous reason than the steel unions might have.

With a greater amount of the construction work being paid for from the public purse now than at any time in our peacetime history, the unions, sometimes aided and abetted by their contractor employers, have made some of the most fantastic demands on the public tax money through the disguise of wages and fringes that have ever been conceived.

We, in California, certainly have not been any slackers in this respect, and have given in without even making a token resistance to the demands. See some of the clippings attached. For example, "Double Time for Birthdays in New Pact," "North Carpenters Accept Three Year Contract With A.G.C. for 60½ Cents Hours Wage Increases," "Electrical Workers Get Wage Hike in Three Year Contract," Plumbers Sign Three Year Pact for A $1.05 Increase in Wages."

With such snowballing demands being accepted all around us, some of the smaller contractor groups find themselves sitting in negotiation meetings without the moral courage to stand up and fight or say no to any demand that is placed in front of them.

In our own Plumber & Refrigeration Fitters Agreement, we accepted without debate a 75¢ per hour increase in wages over a three year period. In other building trades contracts now being negotiated in this area, we are going along with the same spineless agreement to the trend being established because union members and contractors alike are looking at the prize grab "public money in construction."

We wish only that the contractors, general and sub alike, had the integrity and moral courage that the leaders in the steel industry are displaying today by their refusal to accept inflationary and unrealistic, nonproductive wage demands.

We cannot apologize for the infamy of some of the wage negotiations concluded in Northern California; we can only be ashamed of ourselves and our associates for the unpatriotic attitude we have taken about our national economy.

NAT N. LEAS,
Manager

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

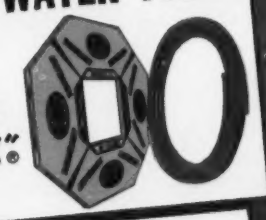
Continental Air Filters Elects Johnston President

LOUISVILLE, Ky.—Frank B. Johnston, Jr., vice president and director of Continental Air Filters, Inc. since 1953, became president Aug. 1.

He succeeds William K. Gregory, now board chairman. Gregory has headed the company since it was founded in 1946.

IN TUBING,
Nothing Beats Copper!
IN COPPER TUBING,
Nothing Beats READING!

For COPPER WATER TUBE
Specify READING "LEKTRONEAL"®



For COPPER REFRIGERATION TUBE
Specify READING "LEKTROSEAL"®

Also Specify READING
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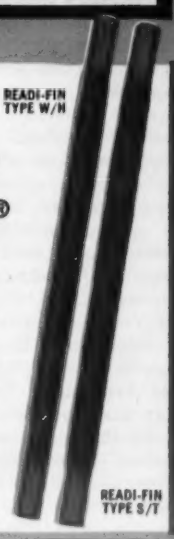
- COMMERCIAL COPPER TUBE
- RED BRASS & COPPER PIPE
- THREADLESS COPPER PIPE

For FINNED COPPER TUBE
Specify READI-FIN®

A line of heat transfer tubing made by Readi-Fin Mfg. Co., Inc. (a subsidiary of Reading Tube Corp., at Reading, Pa.). The extended surface is extruded from the tube wall, thus eliminating the possibility of fin failures resulting from thermal shock, corrosion and erosion. This "one-piece" (integral) construction provides maximum heat transfer efficiency, ruggedness, easy fabrication and freedom from fouling. It's available in Water Tube types with finned or plain ends and in Condenser Tube types with finned, plain or stripped ends.



For PRECISION COPPER TUBE
Specify MACKENZIE WALTON
(A Subsidiary of READING TUBE CORP.)
PAWTUCKET, R. I.

- Famous for Accurate and Fine Finish Tubing
- Quality Controlled from Start to Finish

READING COPPER BRASS TUBE
And RED BRASS PIPE

Sold Through Wholesalers Only ®

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

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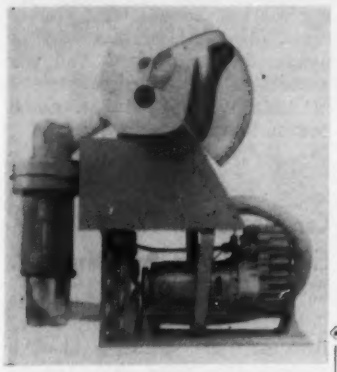
HOUSTON, TEXAS 1121 Rothwell St.
DALLAS, TEXAS—9000 Sovereign Row, Brook Hollow Industrial District

'Whitecap' Air Conditioned Helmets Help Operators of Heavy Equipment



HELMET, hose, refrigeration unit, and filter are shown in this close-up view of the Jamieson "Whitecap" air conditioned helmet for operators of heavy equipment.

AGRICULTURAL worker gets production from heat, dust, and humidity with air conditioned helmet. Refrigeration unit can be seen mounted on farm machine.

SANTA MONICA, Calif. — Heavy equipment operators may soon look like space pilots as they drive their machines in the cool comfort of a new air conditioned helmet that looks very much like something out of science fiction.

An outgrowth of research on space suits, the new "one-man air conditioner" will be particularly useful in agriculture, construction, and open-pit mining, according to Jamieson Laboratories here, which is producing the helmet.

"It not only cools and dries the air, but filters out dust, pollen, insects, and other foreign materials," the firm said. "Inside the helmet, cool, clean air circulates around the head and face of the wearer, helping him to feel comfortable all over, even on the hottest day.

"The lightweight fiberglass helmet receives its cool air from an electric refrigeration unit by means of hose that is long enough to give the driver full freedom of movement. The small electric motor connects to standard ignition systems, and the entire unit can be easily moved from one piece of equipment to another."

The new "Whitecap" air conditioning system "is expected to contribute to greater profits in increased work performed," the company added. "The user gets more work done because he is comfortable and alert, without the need for repeated rest periods."

The helmet is made of fiberglass and has a shatterproof plastic visor. The headband adjusts to almost any head size. The flexible vinyl air hose is 6 ft. long. Air temperature can be regulated for individual driver comfort.

This information was given on the refrigeration-filter unit: Weight—about 45 lbs.; wires into any 12-volt or larger d.c. circuit; cooling capacity—1,200 B.t.u.h. maximum; blower output—5 c.f.m.; filter—centrifugal type, tested estimated 95% efficient on material 10 microns and larger.

The hermetically-sealed refrigeration unit is powered by a ⅛-hp. d.c. electric motor.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Trion Awarded Contract For Nuclear Submarines

McKEES ROCKS, Pa.—Trion, Inc. announced that it has been awarded a contract for 16 additional electronic air cleaning units to be installed in the U. S. Navy's nuclear submarines *Nautilus* and *Skate.*

The new units, eight to be installed in each ship, will augment single-unit Trions which been performing effectively since the subs were build, the announcement said. Thirteen submarines now are equipped with Trion electronic air cleaners, including the *Skip Jack, Sea Wolf,* and *Triton,* it was noted.

Fairbanks Catalogs Valves

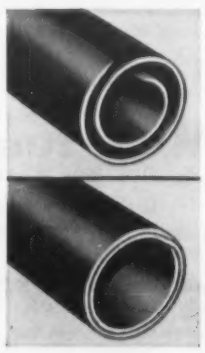
NEW YORK CITY — Bronze and iron body gate, globe, and check valves for heating, piping, and air conditioning systems are described in a new circular released by The Fairbanks Co., 393 Lafayette St., New York 3, N. Y.

Air Conditioning Helps Level Hospital Load

HUNTSVILLE, Ala. — How air conditioning has helped level peak loads for Huntsville hospital was explained by Larry C. Rigsby, hospital administrator, recently.

Knowing the hospital is air conditioned, persons needing hospital care or surgery, which could have been postponed until cooler weather, are now entering the hospital during the summer. This serves to equalize the hospital load throughout the year.

There's almost no limit to the things Bundy can mass-fabricate



Bundyweld is the original tubing double-walled from a single copper-plated *steel* strip, metallurgically bonded through 360° of wall contact for amazing strength, versatility.

Bundyweld is lightweight, uniformly smooth, easily fabricated. It's remarkably resistant to vibration fatigue; has unusually high bursting strength. Sizes up to ½" O.D.

Whether it's a complex shape, or just a simple bend, Bundy knows virtually no bounds when it comes to mass-fabricating steel tubing. You see, Bundy engineers are tubing specialists . . . backed by never-ending, ever-bending experience. And here are just a few of the benefits you will derive.

From a single strip of steel comes double-walled, copper-brazed Bundyweld® Tubing—leakproof by test—and the safety standard of the refrigeration industry. Unique beveled edges provide smooth inside and outside seams . . . no inside flash to be removed.

Whatever the stage of product development, Bundy designers can be called in for consultation and for suggestions of time- and money-saving modifications.

For low unit-cost and uniformly high quality, Bundy-designed fixtures and machines are geared to mass-fabricate parts to *your* specifications.

Got a tubing problem? Better see the leading producer in the refrigeration industry *first*! Write, wire, or phone Bundy Tubing Company, Detroit 14, Michigan, today.

Trane Appoints Daniel, Menke

LA CROSSE, Wis. — L. E. Daniel is appointed manager, Jobber Sales Dept., A. C. Menke, vice president, heating and air conditioning sales, The Trane Co., announced.

Daniel will coordinate sales of Trane heating products through heating and plumbing wholesalers.

Formerly manager, convector sales Dept., Daniel succeeds Harry J. Case who was recently appointed manager of Trane residential "Climate Changer" sales.

Air Conditioner Mounted Outside Store Leads to Many Sales

LOOK
This 5 Ton RHEEM AIRE AIR CONDITIONER
COOLING THIS STORE
with 3 Horse Power Compressor
FOR 8⅓ PER HOUR
COME IN AND SEE

5-TON Rheemaire air conditioner cools the Winston Plumbing & Supply Co., Corpus Christi, and serves as a permanent demonstration outside the store. The firm believes that several sales can be traced directly to the display.

CORPUS CHRISTI—Winston Plumbing & Supply Co. here has combined the practical use of an air conditioning unit to cool its own store with attracting prospective air conditioning customers, through a permanent demonstration outside the front of the store, near the sidewalk.

The store fronts on a busy thoroughfare.

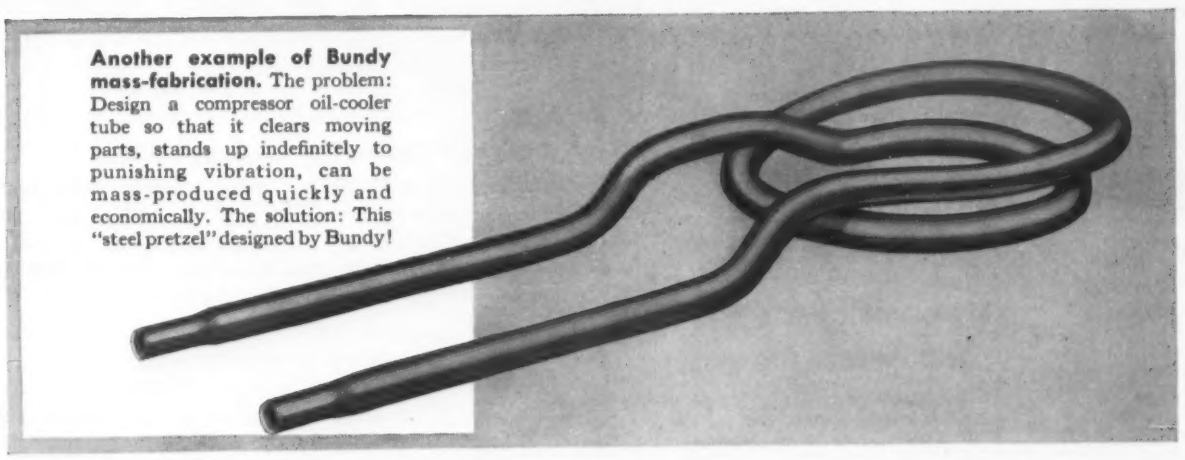
Against the outside front wall, in an open area between the sidewalk and the store, is the store's own air conditioning unit, covered over to prevent weather damage or deterioration. It delivers cool air through a duct in the wall to distribution ducts inside the store.

A large sign on the side of the unit facing the street calls attention to the air conditioner. The sign is headed, in large letters, "LOOK," with the two O's painted as eyes.

Below is this copy: "This 5-ton Rheemaire air conditioner cools this store with 3-hp. compressor for 8⅓ cents per hour. Come in and see."

Buddy Winston, store manager, declared that the practical demonstrator has done much to impress the public with the fact that the company sells and installs air conditioning units and systems.

"During the first year we had it out their," he explained, "several people a month came in and asked to be told more about the unit or one similar for their own stores or homes. The novelty has worn off now and fewer people come in, but we do know that several sales can be traced directly to the permanent display and demonstration."



Another example of Bundy mass-fabrication. The problem: Design a compressor oil-cooler tube so that it clears moving parts, stands up indefinitely to punishing vibration, can be mass-produced quickly and economically. The solution: This "steel pretzel" designed by Bundy!

There's no substitute for the original

BUNDYWELD® TUBING

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING • AFFILIATED PLANTS IN AUSTRALIA, BRAZIL, ENGLAND, FRANCE, GERMANY, AND ITALY

BUNDY TUBING COMPANY • DETROIT 14, MICH. • WINCHESTER, KY. • HOMETOWN, PA.

Westinghouse Trains Several Hundred Servicemen

STAUNTON, Va. — For the second year, Westinghouse Electric Corp.'s air conditioning division has factory-trained several hundred servicemen from its distributor and dealer organizations.

Personnel from as far west as Seattle attended the various courses offered at the company's plant here between October 1958 and May 1959, it was reported.

One-week courses in residential, packaged commercial, and applied equipment covered all of the important aspects of air conditioning installation, operation, and maintenance, Westinghouse pointed out.

The facilities at the plant include a classroom for lectures equipped with visual aids, projection equipment, and ample work surface for each one of the students.

A service workshop adjoins the classroom area where representative models of all packaged cooling and heating products are installed and operating. Here actual service conditions and maintenance operations can be simulated.

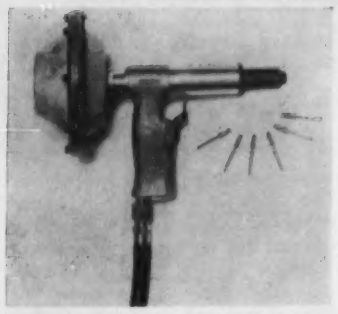
Supervision of the program was under J. M. Nygaard.

Drayer-Hanson Issues 'Spotaire' Literature

LOS ANGELES — Newest technical aid to be printed by Drayer-Hanson's catalog publications section is "Spotaire Units, Capacity Ratings, VRC & LRC."

The literature, designated VRC-LRC 229, is obtainable upon request from Drayer-Hanson, Div. National-U.S. Radiator Corp., 3301 Medford St., Los Angeles 63, Calif.

Riveting Gun Weighs Less than 4 lbs.



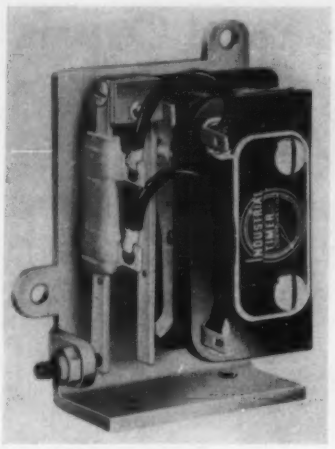
● A new type of riveting gun that weighs less than 4 lbs. and is priced "under $100" is expected to be used in numerous applications including installation of air conditioning and heating units, according to its developers, the "Pop" Rivet Div. of United Shoe Machinery Corp., Dept. AH&RN, Boston.

Capable of operating off plant air or by in-field air compressors, the gun is "extremely portable," the company said. Since peak efficiency is maintained even when the connecting air hose is as long as 60-70 ft., the new gun extends assembly line production techniques to such uses as the installation of ductwork, it was indicated.

"The pneumatic gun will work off compressed air having a pressure as low as 60 p.s.i. or as high as 90 p.s.i. The stroke is ⅝ in. and the pulling force nearly 1,000 lbs. The new gun is designed to pull nearly all sizes and types of 'Pop' rivets including the new closed-end rivet recently introduced, known as the 'Imex' rivet."

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story. Tell him: "AH&RN sent me!"

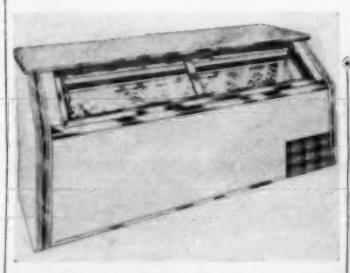


Cycles Adjustable on Time Delay Switch

● The Series TH time delay switch, an adjustable, thermally-actuated snap-action device, is being offered by Industrial Timer Corp., Dept. AH&RN, 1407 McCarter Hwy., Newark 4, N. J.

Totally enclosed load contacts are rated at 10 amps. at 115, 230 volts, 60, 50, or 25 cycles. Standard contact arrangement is SPDT. A single screw will provide time cycle adjustment for individual units, according to the manufacturer. Time cycles from 15 seconds to 2 minutes are available in several different models.

The Series TH is available with 15 amp. load contacts, also with magnetic blow out d.c. DPDT, or double-break load contacts.



Angle Vision Freezers Defrost Electrically

● Introduction of two new "Angle Vision" counter-top merchandisers has been announced by Fogel Refrigerator Co., Dept. AH&RN, 5400 Eadom St., Philadelphia 37.

They are self-contained, automatic electric defrost freezers, 6 ft. and 8 ft. long, with capacities of 13 and 19 cu. ft.

The new models are recommended for use as checkouts or display of tie-in items to increase sales of frozen food, and ice cream at the check out location of the store.

Two sliding glass doors, set on an angle and framed in polished metal, "provide uninterrupted vision—permit many shoppers to use cases simultaneonsly," Fogel said.

The two new models are similar to a 7-ft. model that has been used in Fogel's line for several years.

Store Small Parts In Transparent Drawers

● New transparent plastic-drawer cabinets designed to simplify small parts storage are being offered by Akro-Mils, Inc., Dept. AH&RN, 820 E. Market St., Akron 9, Ohio.

Contents of M series cabinets can be seen at a glance through the clear plastic drawers and enables quick visual check for inventory purposes, it was pointed out.

Two basic drawer sizes measure 2 in. high, 11 in. deep, 3 in. wide for model M3 and 4 in. wide for model M4.

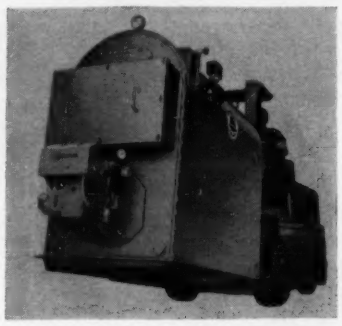
Plastic Label Shows Surface Temperature

● A small plastic label said to be capable of indicating surface temperatures has been introduced by Pyrodyne, Inc., Dept. AH&RN, P. O. Box 49972, Los Angeles 49.

Calibrated to give an irreversible registration of temperature, the "Temp-Plate" is currently available for indication from 100° F. through 700° F. in a choice of 50 increments, with a tested indication accuracy of ±1°, the announcement said.

"The Temp-Plate, backed with adhesive for simple application, registers a permanent change from white to black as the stated temperature level is reached and will adhere to the mounting surface under a wide range of exposure conditions until intentionally removed," according to the company. 'It was developed to detect over-heating or hot spots on nozzles, tubing, valves, etc.

Packaged Boilers Fire by Forced Draft



● A new line of Kewanee packaged commercial and industrial boilers featuring forced-draft firing is now available from American-Standard Industrial Div., Dept. AH&RN, Detroit 32.

Designated "Square-Heat Type RF" units, the packages cover a range of SBI net ratings (steam) from 1,010 to 5,620 sq. ft. and water from 243 to 1,350 MBH. The forced draft-burner fires natural, mixed, or L.P. gas or No. 1 or No. 2 fuel oil or combination gas/oil. The burner and all controls are installed and wired at the factory.

A feature of the new units is a front-mounted control panel that provides a selector switch for instant fuel changeover on combination gas/oil units, the division said. In addition to conventional safety controls, an air-flow safety switch delays firing until the forced draft blower is operating at correct speed.

An insulated wrap-around jacket of heavy-gauge steel is standard equipment. A hot water heating coil is available as optional equipment.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

LARKIN

QUALITY ENGINEERED TO DO A BETTER JOB

HALF-TURRET HUMI-TEMP
Model HT

This forced convection unit is ideal for walk-in coolers and cold storage rooms. Available in capacities from 2500 to 10600 Btu/hr at 10° TD. Mounts flush to wall and ceiling for maximum head room and storage space. Engineered to provide 100% usage of coil surface. Has built-in heat exchanger, patented LARKIN cross-fin coil, permanently lubricated motors, fully insulated drip pan.

STANDARD HUMI-TEMP
Model MT

Available in capacities from 2400 to 32000 Btu/hr at 10° TD, which accurately balance condensing units of the same capacity. Will maintain proper temperature and humidity in walk-in coolers and many other applications. Has LARKIN cross-fin coil, insulated non-sweat drip pan, adjustable louvers, permanently lubricated motors. Easily serviced if necessary.

Hundreds of thousands of LARKIN units are in use successfully from coast to coast and in many foreign countries proving their dependability.

See your wholesaler or write for catalog 1049 B

LARKIN COILS INC.

519 Memorial Dr., S.E. P. O. Box 1699
ATLANTA 1, GEORGIA

New! REMCO Moisture and Liquid Indicator

Crystal Clear, Fused Sight Glass

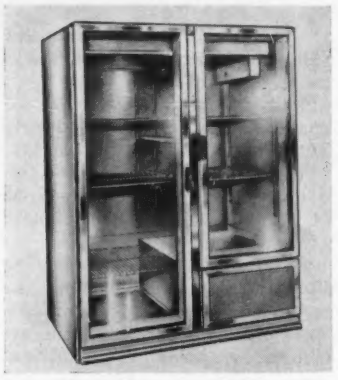
Remco's new moisture and liquid indicator tells you the exact condition of the refrigerant at a glance. The blue dot indicates "dry"; pink says it's "wet"; pale blue or light pink, "caution". The crystal clear, fused sight glass and highly reflective interior reveal the tiniest bubble, the slightest color change. Equally sensitive to R-12 and R-22.

Available in ¼" through 2⅛" O.D. sizes with male x male flare, female x male flare, or extended sweat connections. Bodies through ⅝" are brass; ⅞" through 2⅛" are copper. Extended sweat connections are heavily copper-plated steel. Caps protect the sight glasses. U/L approved, working pressure is 500 psi maximum; bursting pressure, 2,500 psi minimum.

They're perfect companions for Remco Molecular Sieve Filter-Driers and are sold by leading refrigeration wholesalers everywhere. For information write for Bulletin RP-1, Remco, Inc., Zelienople, Pa.

REMCO

REMCO REFRIGERATION COMPONENTS: FILTER-DRIERS AND ADAPTER FITTINGS • CHECK VALVES
MOISTURE AND LIQUID INDICATORS • RECEIVER-DRIERS • SAFETY DEVICES • FROST-TITE FLARE NUTS



Jordon Line Offers 50% More Glass Area

● Production of a new line of hinged glass door reach-in refrigerators said to provide up to 50% more glass area than previously available on similar models was announced recently by Jordon Commercial Refrigerator Co., Dept. AH&RN, 2200 Kennedy St., Philadelphia 37.

The new style glass door features a welded, thin frame of precision extrusion and multiple pane, non-fogging glass units, the company said. Also featured is a new style edge-mounted friction latch, and pin-type lift off hinges to allow door removal without tools or removing hinges.

The new "Full-Vue" glass doors are available on all model reach-in refrigerators from 11 to 90 cu. ft., in stainless steel or white enamel, in self-contained or remote styles.

Desk High 'Fridg-ette' Has Service Top

● The Uropa "Fridg-ette"—a desk-high refrigerator offered in a range of pastel and furniture colors, and equipped with a glass fiber service top—is being offered by Uropa International, Inc., Dept. AH&RN, 16 West 32nd St., New York City 1, distributor of West European appliances and electronic products.

Made in West Germany, the Fridg-ette measures 30 in. by 20 in. by 23 in. Interior storage space is listed as 3½ cu. ft. Features include door shelves and adjustable brass-trimmed shelves. The freezing area measures 13 in. by 12 in. by 4 in.

The refrigerator is priced at $149.95 list. It is said to be adaptable to a.c. and d.c. on all voltages. The cooling unit functions on the absorption principle.

Thinking of—

- **changing territories**
- **expanding your territory**
- **taking on new lines—**

Check the
CLASSIFIED ADS

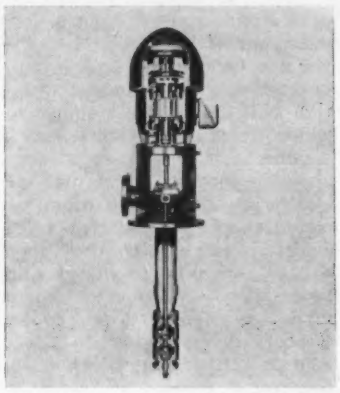
Your opportunity may be there.

40 Sizes Added to Centrifugal Pump Line

● Expansion of its centrifugal pump line with the addition of 40 sizes of vertical short-coupled turbine units has been announced by Allis-Chalmers Mfg. Co., Dept. AH&RN, Milwaukee 1.

These are available in ratings of 20 to 8,000 g.p.m. at heads to 400 ft. and over depending upon the number of stages.

Designed for cooling towers, circulating or process pumping, and other applications, the pump affords considerable space saving, according to the company. This is accomplished through integral construction of motor support and discharge head.



The pump is claimed to be economical to install since one small foundation supports the motor and discharge nozzle.

Recorder Pen for Refrigerated Transport

● A new non-dumping recorder pen has been developed for mobile refrigeration by the Partlow Corp., Dept. AH&RN, 527 Campion Rd., New Hartford, N. Y.

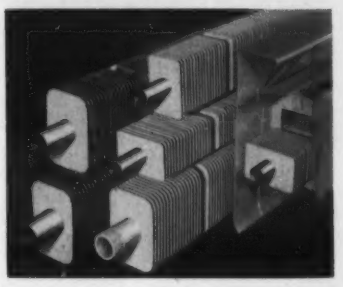
This type B pen features a built-in ink reservoir and operates on a capillary tube principle. It will be furnished on all recorders for refrigeration transport use.

Rittling Bows 'New Idea In Baseboard Radiation'

● The Rittling Corp., Buffalo 5, has introduced what it calls "a new idea in baseboard radiation."

"Using one size enclosure to accommodate five different finned tube heating elements, this new 5-in-1 baseboard radiation reduces inventory and provides range of capacities per lineal foot to meet short and long room requirements," the company said.

The heating element is carried on brass rollers, "so tubing can move freely and noiselessly in expanding and contracting." Adjustable expansion panels permit using stock length units without field cutting and fitting.



'White Rustrem' Paint Protects Pipes

● A new white protective paint, recommended for plumbing, heating, and ventilating applications, was announced by Speco, Inc., Dept. AH&RN, 7308 Associate Ave., Cleveland 9.

Offered under the trade name "White Rustrem," it is said to combine attractiveness, great light reflectivity, as well as a high degree of resistance to rust.

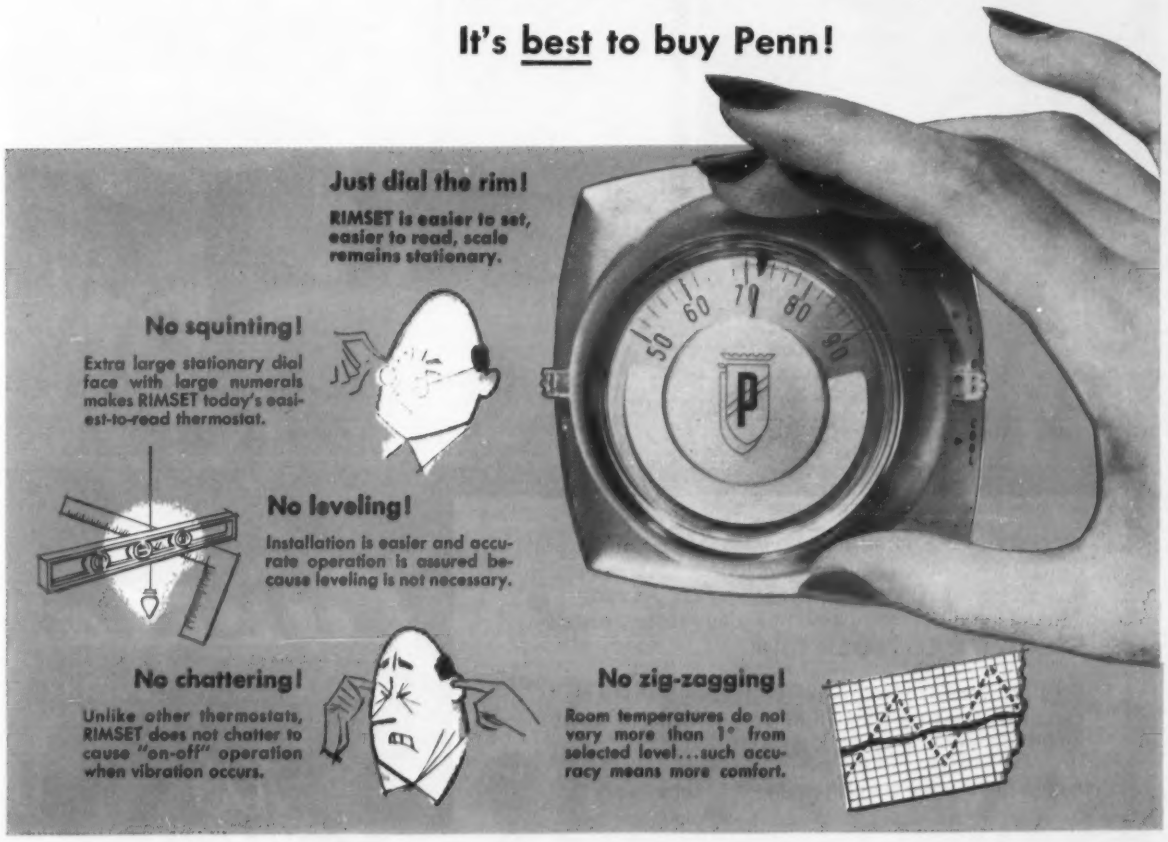
White Rustrem is reputed to be suitable for use, indoors or out, on all types of piping, metal shields, reflectors, ventilators, drains, guard rails, tanks, vats, steel work, etc. The manufacturer advises it is "easy to apply, does not require a primer, and gives excellent one coat coverage."

COMPARE

...only PENN'S RIMSET has all these thermostat features

Take a few minutes to compare room thermostats... you'll discover *only* the Penn RIMSET brings you *all* the selling advantages shown below. In addition, it has beautiful, distinctive styling that's at home in any home. And, RIMSET is so versatile! Various subbases are available for 12 different heating and cooling applications. Thus, if cooling is added later, simply change the subbase and use the *same* thermostat. So... take a few minutes to compare and you, too, will discover...

It's best to buy Penn!


Just dial the rim!
RIMSET is easier to set, easier to read, scale remains stationary.
No squinting!
Extra large stationary dial face with large numerals makes RIMSET today's easiest-to-read thermostat.
No leveling!
Installation is easier and accurate operation is assured because leveling is not necessary.
No chattering!
Unlike other thermostats, RIMSET does not chatter to cause "on-off" operation when vibration occurs.
No zig-zagging!
Room temperatures do not vary more than 1° from selected level...such accuracy means more comfort.
50
60
70
80
90
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PENN CONTROLS, INC. Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N.Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Air Conditioning Sales Continue Boom During July--

(Concluded from page 1)

ably wouldn't get any ore of certain models until the '60 lines hit the field.

Kelvinator Div. of American Motors Corp. asserted that July sales of major appliances, including room air conditioners, were up almost 31% over July of last year, making the eighth consecutive month in which sales have increased significantly over the year ago period.

In the larger units for applied systems, the story was much the same. A. A. Silverman, president of Vilter Mfg. Co., reports that not only did the usual slowdown that comes around the middle of summer fail to appear, the backlog of orders actually continued to build up.

Vilter, which makes large compressors, water chillers, and other components for larger systems, has been trying to build a small inventory of compressors for the last year, but hasn't been able to do so, Silverman relates, because the company has been pressed to ship to fill orders as soon as the units are completed.

Inventory Situation Will Be Better In '60

One thing seems certain, the air conditioning industry will go into the next selling season with a far better inventory situation than has been the case for many years.

In the room air conditioner field, Becker of Fedders has stated that at the end of the season there will be as little as 250,000 units in factory and distributor inventory as compared with the situation a year ago when inventories were estimated at a minimum of 600,000 and a maximum of 800,000.

Some believe that stocks will be even lower. A similar situation will undoubtedly apply to the larger package units.

June sales of air conditioners showed strong gains in the sweltering East while room air conditioner sales suffered from cooler weather in the deep South, according to utility and association reports now being made available. The cooler weather did not seem to affect central unit or heat pump sales, however.

The Electrical League of Cleveland reported June room air conditioner sales up 202% and sales for the first six months up 66%.

The Pennsylvania Electric Co., serving central and northern Pennsylvania, reported dealer sales for June up 167% and for the six months up 92%. They sold 706 air conditioners in June and 1,105 for the half-year.

Neighboring utility, West Penn Power Co., said its dealers sold 967 air conditioners during June, up 105% over a year ago. Their 1,787 units for the six months was 74% better than last year.

Quaker City Area Sales Rise 118%

The Electrical Association of Philadelphia, reporting on distributor sales to dealers in five Pennsylvania counties embracing the Quaker City, numbered them at 12,337 units, 118% over the previous June. For the six months the distributor sold 39,076, 9% more than last year.

Electric Institute of Washington disclosed that D. C. distributors sold 8,311 room air conditioners up to and including 2 hp. in June, 104% more than last year. For the six months, they sold 20,999 units, 38% more than in 1958.

In Chattanooga, the 1,998 air conditioning units sold during June were 5% more than last year. Fourteen heat pump sales doubled last June's total. Sales of commercial air conditioners (52) were up 53%.

In Kansas Gas and Electric Co. territory, June central air conditioner sales—150 units—were up 63%, while room air conditioner sales—2,259 units—were down 7%. For the six months, central air conditioner sales were up 50%, while room air conditioner sales were down 9%.

Central Heat Pump Sales Up In Houston

Houston Lighting and Power Co. blamed cool weather in the first half of the year for a 15% drop in room air conditioner sales there—the first sales drop in the city's history. Still, dealers sold 41,915 room units, including 2 hp. during the first six months of the year.

On the other hand, they upped their sales of central air conditioners during the same period by 30% and heat pumps by 500%. They sold 5,152 central type air conditioners, 379 central heat pumps, and 490 reverse cycle room units.

Texas Electric Service Co. at Fort Worth reported a 14% gain in June sales of room air conditioners—1,915 units, and a 21% gain for the six months—5,009 units.

At nearby Dallas, the Dallas Power & Light Co. reported dealers selling just slightly fewer room air conditioners in both June and the six months than in the 1958 periods. They sold 6,014 in June and 21,433 in the six months.

In north central Florida, Florida Power Corp. disclosed that dealers sold 2,452 air conditioning units and heat pumps during June, up 14% from last year. They sold 6,238 units for the first six months, 13% more than last year.

At the same time, Tampa Electric Co. reported dealer sales of room air conditioners at 1,284 for June, down 17% from last year.

In St. Louis, Union Electric Co. reported distributor sales of air conditioners to dealers in its territory were down 36% in June and down 22% for the first six months. June sales totaled 2,759 units. Six months sales were 11,546 units.

In the Inland Empire, an air conditioner sales campaign boosted June sales by 16% despite uncooperative weather, according to the Washington Water Power Co. Dealers sold 266 room units and 161 central units during June, boosting their six months totals to 363 room air conditioners and 215 central systems.

Bulletin Introduces 'Balance Loader' Line

PASSAIC, N. J.—Publication of Bulletin BL-5, introducing its line of patented "Balance Loaders," was announced by M. Blazer & Son, 173 Market St. here, manufacturer of air conditioning and refrigeration equipment.

POCKET MORE PROFITS WITH
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GOOD PROFIT MARGIN IN THE LUXURY LINE WITH "GOLDEN SILENCE" CIRCULATION
EVAPORATIVE CONDENSERS, COOLING TOWERS AND AIR HANDLING UNITS UP TO 100 TONS
PACKAGED AIR CONDITIONING UNITS 3 THRU 100 TONS
PACKAGED LIQUID CHILLERS 7½ TO 100 TONS WITH SEMI-HERMETIC COMPRESSORS
CONDENSING UNITS UP TO 100 TONS—F-12 OR F-22
PACKAGED AIR COOLED SPLIT SYSTEMS THROUGH 10 TONS
All CURTIS air conditioning equipment is priced for profit—competitive prices on all units include a generous profit margin for you. Curtis "packaged" air conditioning equipment is all factory assembled and factory tested—it is easy to sell . . . easy to install.
THE BALANCED COMPONENTS in each CURTIS air conditioner assure a minimum of maintenance, quiet operation and maximum cooling efficiency.
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MANUFACTURING COMPANY
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WHAT . . WHEN . . WHERE

— A Guide to Coming Events of Interest

Midwest Association—Refrigeration Service Engineers Society Educational Conference
Oct. 1-3, Lafayette hotel, Little Rock, Ark.

American Gas Association Convention
Oct. 5-7, Conrad Hilton hotel, Chicago.

National Frozen Food Distributors Association Meeting
Oct. 25-28, Sherman hotel, Chicago.

Refrigeration Service Engineers Society Convention
Oct. 30-Nov. 2, Atlantic City, N. J.

Air-Conditioning & Refrigeration Institute Membership Meeting
Nov. 1, Haddon Hall, Atlantic City, N. J.

Air-Conditioning & Refrigeration Wholesalers Meeting
Nov. 1-2, Atlantic City, N. J.

National Commercial Refrigerator Sales Association Convention
Nov. 2-4, Traymore hotel, Atlantic City, N. J.

11th Exposition of the Air-Conditioning & Refrigeration Industry
Nov. 2-5, Convention Hall, Atlantic City, N. J.

National Hotel Exposition
Nov. 2-6, Coliseum, New York City.

National Electrical Manufacturers Association Meeting
Nov. 9-13, Traymore hotel, Atlantic City, N. J.

The Institute of Boiler & Radiator Manufacturers Meeting
Week of Nov. 9, Seaview Country Club, Absecon, N. J.

National Warm Air Heating & Air Conditioning Association Meeting and Convention
Dec. 1-4, Chase Park-Plaza hotel, St. Louis.

George Romney 'Scholarships' Awarded

DETROIT—Dealer-winners of the 10 all-expense George Romney scholarships to this year's NARDA Institute of Management were announced recently by E. B. Barnes, general sales manager, Kelvinator Div. of American Motors Corp.

Selected for their outstanding contributions toward raising the stature of appliance selling in their communities were:

E. A. Sagebiel, Sagebiel's, Seguin, Texas; Dail C. West, Miami Sales Co., Miami, Okla.; George J. Romberg, City Ice Co., Gainesville, Ga.; S. D. Jones, Casey's, Ann Arbor, Mich.; Robert J. Jesion, Jesion Appliances, Inc., Milwaukee.

Also, T. A. Tallarico, T. A. Tallarico Appliances, Keokuk, Iowa; Stanley C. Carlson, B. F. Goodrich Store, Tacoma, Wash.; Leland B. Wakefield, Wakefield's, Inc., Provo, Utah; Lawrence Weiner, Sattler's, Buffalo; and Wm. H. Murray, Wm. H. Murray, Inc., Paoli, Pa.

The Institute of Management, sponsored by the National Appliance & Radio-TV Dealers Association, is conducted for one week each year at The American university, Washington, D. C.

MANUFACTURERS

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OCTOBER 19

Use the Pre-Show Issue to attract and invite visitors to your booth, to interest them in the products you'll display.

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NOVEMBER 2

The Big Show Issue which will be distributed to showgoers from our booth. Always one of the most popular issues of the year.

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NOVEMBER 16

The Convention-In-Print Issue which will wrap-up all the important happenings at the Show. Use this issue to re-sell all those who visited your booth while their visit is fresh in their minds.

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Send us your space reservation today . . . or contact your regular NEWS representative.

Missile Field To Be Emphasized at Cryogenic Meeting

BERKELEY, Calif. — Special emphasis on cryogenics in the missile field and the importance of super insulation will highlight the 1959 Cryogenic Engineering Conference to be held Sept. 2-4 at the University of California here.

The fifth national conference is being held in California because of the large concentration of missile activities here, according to Dr. D. N. Lyon, conference committee.

The conference's six sessions will cover applications and techniques; missile technology, insulation; super insulation; heat transfer, design and application; liquefaction and refrigeration, mechanical properties, and fluid phenomena, and processes and data.

At Wednesday luncheon, Dr. Will Duke, incharge of research and development at Space Technology Laboratories, will talk on the impact of cryogenics on future missile systems.

At Thursday luncheon, Dr. L. Alvarez, professor of physics at University of California, will give his impressions of Russian cryogenic technology and installations. He recently visited Russia.

Registration fee is $10. This includes a copy of the proceedings of the conference.

BHCB Launches Speakers Bureau

NEW YORK CITY—In its latest move to stimulate new and expanded markets for hydronic heating, the national Better Heating-Cooling Council has launched a Speakers Bureau service which will inform the nation's home builders about the advances and benefits of modern hot water heating systems.

According to BHC, leading executives of its member companies are available now on a no-charge basis for scheduled talks before local builder groups throughout the country.

Covered in the talks are zoning, various methods of cooling the hydronically heated house, and problems arising in hard-to-heat houses like the split level and rambling ranch type.

A series of four talks is being offered under the following titles: "How Quality Heat Can Help Builders Sell More Homes," "Hydronics—the Solution to Heating Problems, Buyer Complaints," "How a Hydronic Model Home Can Boost Your Sales," and "New Cost-Cutting Techniques with Hydronics."

Norge July Sales To Distributors Up 23%

CHICAGO — Sales of Norge home appliances to distributors in July rose 23% ahead of the 1958 month and reached a record July peak, the company reported.

Judson Sayre, president of the Norge Div. of Borg-Warner Corp., said that volume in the "biggest Norge July" was 42% ahead of July in the company's record 1955 year. Sales were 26% above the Norge July in 1956, the appliance industry's biggest year.

Admiral Names Malin

CHICAGO — Larry L. Malin has been appointed to the newly-created post of field merchandising supervisor for Admiral Corp., Carl E. Lantz, vice president-sales, announced. He was formerly a regional sales manager in Cleveland.

Copeland 9-Month Net Hits $932,412

SIDNEY, Ohio—Copeland Refrigeration Corp. reported that net income for the nine months ended June 30 totaled $932,412, or $1.17 a share, on sales of $23,861,177. This compares with net income of $413,144, or 52 cents a share, on sales of $22,255,211 a year ago.

Dunham-Bush Says All Plants Now Show Profit

WEST HARTFORD, Conn. — Cecil Boling, president of Dunham-Bush, Inc., had something pleasant to tell stockholders in his report on the third quarter of the company's fiscal year.

"After almost a year of reporting on the problems of moving plants and the resultant poor profit showing because of these moves," Boling said, "it is a pleasure to be able to report that all our plants are now operating profitably."

Earnings for the quarter ended June 30, he announced, were $301,000, amounting to 25 cents per common share, after preferred dividends. This compares with $109,000 and 9 cents per common share in the corresponding period last year.

Earnings for the nine months ended June 30 were $313,000 or 26 cents per share, against $508,000 and 43 cents per common share for last year.

Sales for the quarter amounted to $9,129,000, up from the $8,258,000 in the like year-ago period. Nine-month sales totaled $23,830,000, compared to $24,185,000 a year earlier.

Boling said the outlook for the final quarter of the company's fiscal year is "encouraging." However, he noted, "the vacation shutdown for all our plants falls within that period and will have some effect on our results.

"The demand for our products is strong and this, along with continued improvements in operating efficiency, indicates that your company now has a sound and profitable basis for the future," Boling concluded.

You make more profit per filter sale with Skuttle-aire permanent filters!

Features for long life service: Heavy gauge one piece aluminum frame . . . rigid metal grill for greater strength.

Here are the reasons why you get more with Skuttle-Aire:

because they're permanent . . . built for lifetime wear.

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because they're filled with new-type filtering material . . . multiple layers of specially woven plastic filaments with permanent electrostatic qualities, making it the ideal dust and dirt collecting agent.

SKUTTLE-AIRE permanent filters are available in all sizes for furnaces, central air conditioning systems and room coolers.

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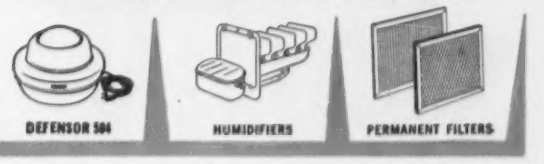

Fundamentals of Air-Moving Systems

(3) How Housings Affect Blower Wheel Performance

By L. C. Lindstrom, Air Impeller Div.
The Torrington Mfg. Co., Torrington, Conn.

In the last three articles in this series (ACH&RN, July 6, 13, and 20), the selection of fans and blower wheels was outlined on the basis of standard performance data provided by impeller manufacturers. All such performance information is obtained in air-flow tests with "standard" blower wheel housings and fan orifices, each housing or orifice being designed to get the most air out of the impeller. Any alteration in the standard housing, whether specified by the designer of the air-moving system or made on location by the installation contractor, will change the impeller unit's performance to some degree—almost always to the worse.

Because the performance of a fan or blower wheel therefore depends so much on the orifice or housing, the designer and contractor will find it helpful to known just how the housings affect operation of blower wheels and how much differences in housing design can alter performance. The next series of articles will explore how the shape, size, and location of an orifice can affect the performance of a propeller fan.

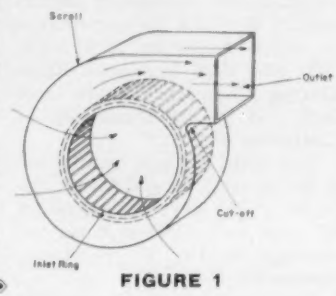

FIGURE 1

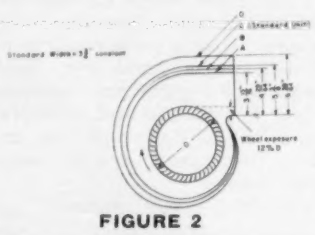

FIGURE 2

HOW BLOWER WHEELS MOVE AIR

The relative importance of various changes in the housing of a blower wheel like that in Fig. 1 depends on the manner in which the air is moved in the housing.

A rotating blower wheel draws air through the inlet ring, increases its speed by the pushing action of the blades, and discharges it from the outlet. The purpose of the scroll is to convert the high velocity pressure in the wheel blades to more useable static pressure at the housing outlet. (velocity and static pressure are discussed in detail in Part I of this series). This pressure conversion is accomplished by designing the scroll so that there is more space for air to flow as it moves from the cut-off clockwise around the outside of the wheel to the outlet.

The amount of conversion from velocity pressure to static pressure depends very much on how abruptly the distance from the center of the wheel to the scroll surface increases (the scroll slopes more sharply away from the wheel surface with a larger diffuser angle). The cut-off, the closest point from the scroll to the center of the wheel, prevents recirculation of the air approaching the outlet from the top of the wheel.

Pressure conversion can also take place in the wheel blades themselves and in separate diffusers added to the housing outlet. The total conversion of velocity pressure to static pressure is never complete, so that there is always some velocity pressure — and air velocity — present. Because the highest obtainable air flow rate in a given system is almost always demanded in commercial units, it is usually desirable to make static pressure at the housing outlet as large as possible.

Only electronic cooling blowers and other special devices normally require high air velocities or long air throw (high velocity pressure).

While velocity pressure must be considered in evaluating the over-all performance of a blower wheel, static pressure and static efficiency (also discussed in previous articles in the series) are the most frequently used characteristics in measuring performance. The static efficiency of the blower unit—the ratio of static energy output to the electrical energy input—is determined by the power losses in the blower housing as well as by the degree of pressure conversion before discharge. These power losses may be caused by air turbulence or surface friction either at the inlet, in the wheel blades, in the scroll, or at the outlet.

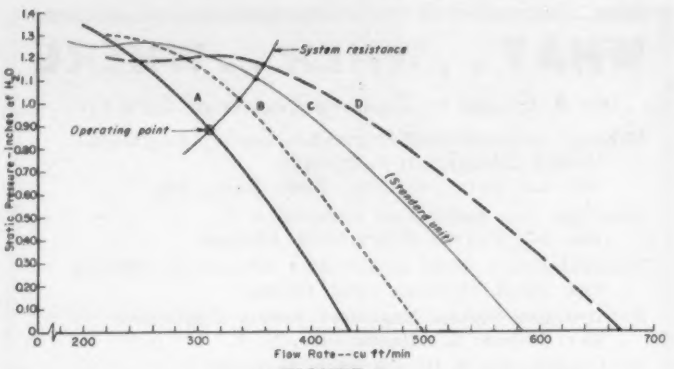

FIGURE 3

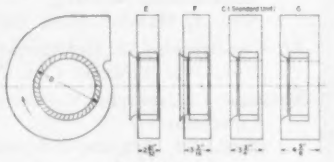

FIGURE 4

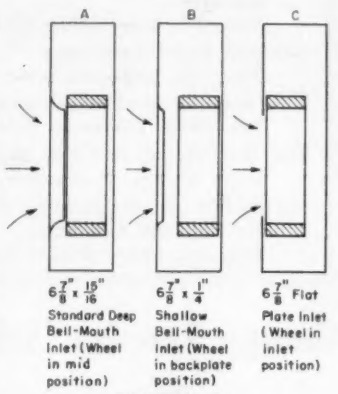
A
B
C
6 7/8" x 15/16" Standard Deep Bell-Mouth Inlet (Wheel in mid position)
6 7/8" x 1/4" Shallow Bell-Mouth Inlet (Wheel in backplate position)
6 7/8" Flat Plate Inlet (Wheel in inlet position)

FIGURE 6

HOUSING CHANGES WHICH MOST AFFECT PERFORMANCE

There are five types of changes in housing which most affect blower wheel performance:

1. *Scroll shape*—a particular blower wheel may be installed in either a tight scroll (unit A in Fig. 2) or a relatively open scroll (unit D in Fig. 2). The height of the housing outlets, of course, are larger in more open scrolls.

2. *Housing width*—the flow of air in the housing is very much affected by the relative width of the housing and the wheel itself (Fig. 4).

3. *Inlet ring shape* — the standard deep bell-mouth inlet, shallow bell-mouth inlet, and plate inlet are the most common shapes (Fig. 6).

4. *Wheel position*—the wheel may be placed in either a mid position, back plate position, or

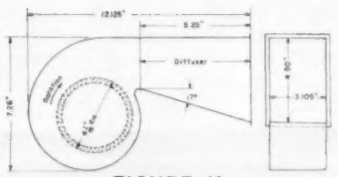

FIGURE 10

TOLERANCE

Reason why — it Pays to Specify United Seamless Copper Tube

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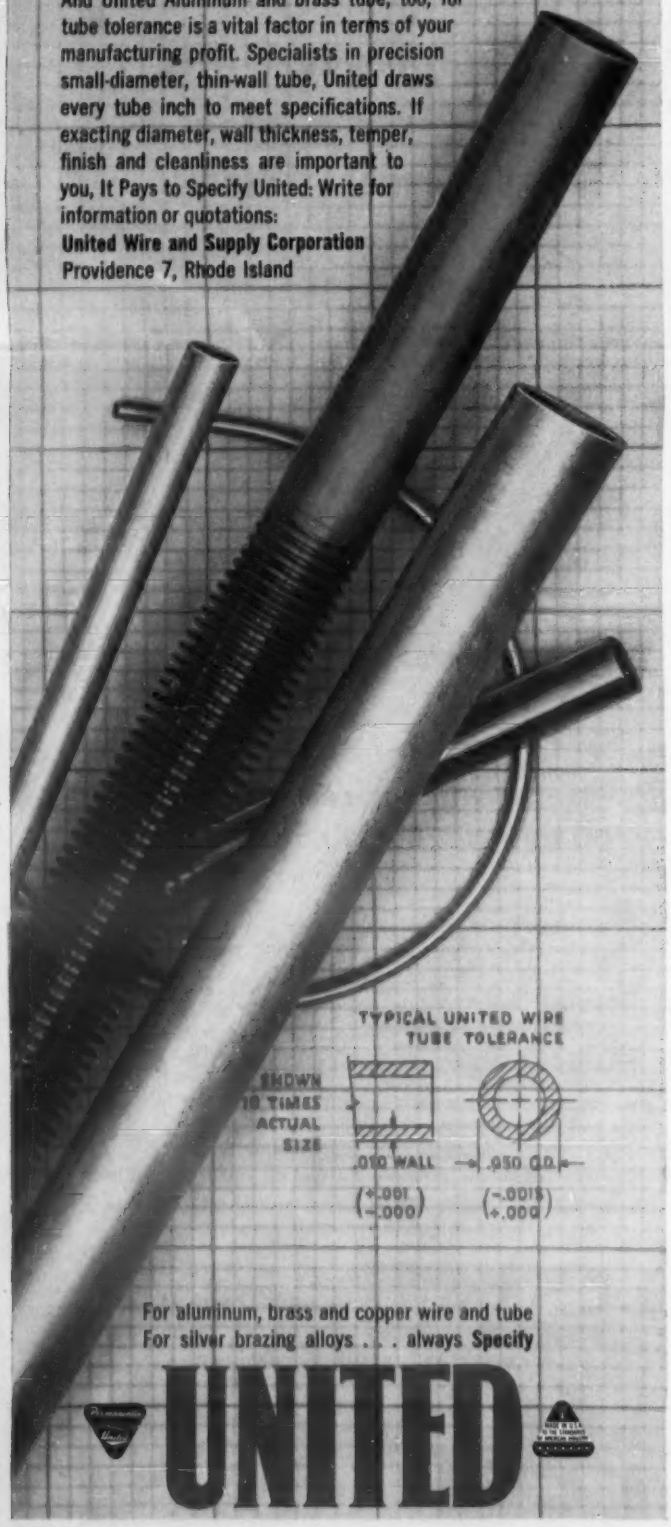

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inlet position (drawings A, B, and C in Fig. 6).

5. *Nature of outlet*—a diffuser, straight duct, or open discharge can change blower performance (Fig. 10).

The following discussions of each of these five types of change in housing design are based on actual controlled performance tests under identical conditions on blower units with the indicated changes. In each case the changes are all related to the "standard" performance of a Torrington Airotor 729-212 unit — a single-inlet blower wheel with forward-curve blades, often called a squirrel-cage wheel. The impeller is $7\frac{29}{32}$ in. in diameter and $2\frac{3}{8}$ in. wide. The inlet diameter is 7 in. and a standard deep bell-mouth inlet with the dimensions given in drawing A of Fig. 6 was used.

Although each change in the housing produced significant variations in the static efficiency and brake horsepower of the blower wheels, only the pressure-flow curves will be plotted in demonstrating changes in performance. The changes will often be described in terms of shifts in the operating point of the blower when in a particular system represented in the curves by "system resistance."

SCROLL VARIATION

Each of the four units A, B, C (standard unit), and D in Fig. 2 could conceivably be used with the same "standard" blower wheel of diameter $D=7\frac{29}{32}$ in. The performance curves for all four units in Fig. 3 show that for a given air-moving system ("system resistance" curve) the flow rate and static pressure at the operating point increase as the scroll opens up (or as the outlet height increases).

The flattening out of the pressure-flow curves as the scrolls become larger shows that blower performance is less affected by scroll size when static pressures produced by the impeller unit are higher.

Although the static efficiencies (not shown) of scrolls A and B are higher than scroll D at very low flow rates, scroll D with the largest outlet area, has superior static efficiency over most of the range of the pressure-flow curve where the blower wheel is normally used.

Although its performance is better, a larger scroll occupies more space. That is the main reason why scroll C has been selected as the standard housing rather than scroll D. It has a more useful balance of operating characteristics. Its pressure-flow curve is high and does not drop off too rapidly at low flow rates; its static efficiency is quite good throughout its useful range and it is reasonably compact in size.

(To Be Continued)

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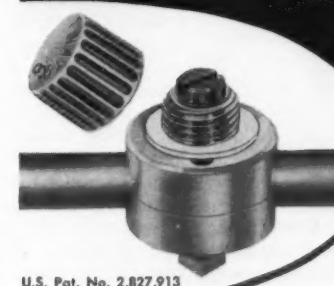

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as installed on 3 ton Mathes air conditioner
For charging, discharging and testing units quickly and easily without refrigerant loss. Designed to pierce the tubing without crimping or distortion. Line Tap Valves are available in 6 O.D. tube sizes: 3/16", 1/4", 5/16", 3/8", 1/2", and 5/8". ALL SIZES ARE ONE LOW PRICE.
CONTROL VALVES
CV-1—A lifetime tool designed to operate all size LINE TAP VALVES as well as WATSCO CAN TAP AND LINE PORT VALVES.—Quick coupled and installed without wrenches.
CV-2—The same Valve as the CV-1 but has a double port which enables you to connect a gauge and charging line in series to one or any number of packaged refrigerant containers, simultaneously.
ELIMINATES THE NEED FOR A CHARGING MANIFOLD.
PART NO. CV-1
PART NO. CV-2
Send for illustrated brochure Dept. N-28
WATSCo INC. VISIT OUR BOOTH NO. 723 AIR SHOW NOV. 2-5
1020 E. 15th STREET • HIALEAH, FLORIDA

Westinghouse Adds 5-Ton Air-to-Air Heat Pump to Line

STAUNTON, Va.—To meet increasing demand for the heat pump, Westinghouse Electric Corp. has added a 5-ton unit to the air conditioning division's product line, it was announced by Raymond K. Serfass, division general manager.

The Westinghouse heat pumps are air-to-air units, he noted. Production of the new unit will fill out the line of 3-ton and 7½-ton heat pumps already marketed by the company, Serfass said.

The Westinghouse heat pump has a remote or split-system design. The compressor and one coil are located outside the home, while the other coil is installed indoors in the basement, attic, utility room, or wherever is most convenient.

"Electric heating and cooling, such as provided by the heat pump, is a basic building block of the 'Total Electric Home' concept—the subject of a nationwide public information program launched by Westinghouse this year," Serfass pointed out.

Coolidge-Locher Marks 30 Years as Contractor

CORPUS CHRISTI, Texas—To mark its 30th anniversary as an air conditioning and refrigeration contractor here, Coolidge-Locher Co. recently prepared a 12-page brochure reviewing its accomplishments.

Claiming to be the oldest refrigeration contracting firm by far in the area, the company was founded in 1929 by David E. Locher, who has been president since 1931, his father David R. Locher, and the late Wilson Coolidge, who interests were purchased in 1931.

Of the third generation, David C. Locher has been with the firm for several years, concentrating on residential sales, and Benjamin works as a mechanic during college vacations.

The anniversary brochure illustrates and lists representative air conditioning and refrigeration installations made by the firm in residences and a wide variety of business establishments.

Cool Buses:

Tucson Says Yes; Detroit Says No

DETROIT — Air conditioned buses got a "Da" from Tucson, Ariz. officials and a "Nyet" from Detroit.

The city of Tucson recently purchased five air conditioned buses, the city's first, and put them into immediate service.

The city of Detroit turned thumbs down on air conditioning for 150 new buses it intends to buy during the current fiscal year. The $630,000 it would cost for air conditioned buses would buy 25 more coaches, Mayor Louis Miriani pointed out.

He claims Detroit needs to replace 800 coaches that are more than 12 years old.

Mason To Direct Market Research at Detroit Controls

DETROIT — Appointment of Harold T. Mason, 31, as manager of market research for Detroit Controls Div. of American Radiator & Standard Sanitary Corp. has been announced by John R. Warnock, general manager of marketing.

H. T. Mason

Mason will direct market research activities affecting products of Detroit Controls plants at Detroit, Stamford, Conn., and Norwood, Mass.

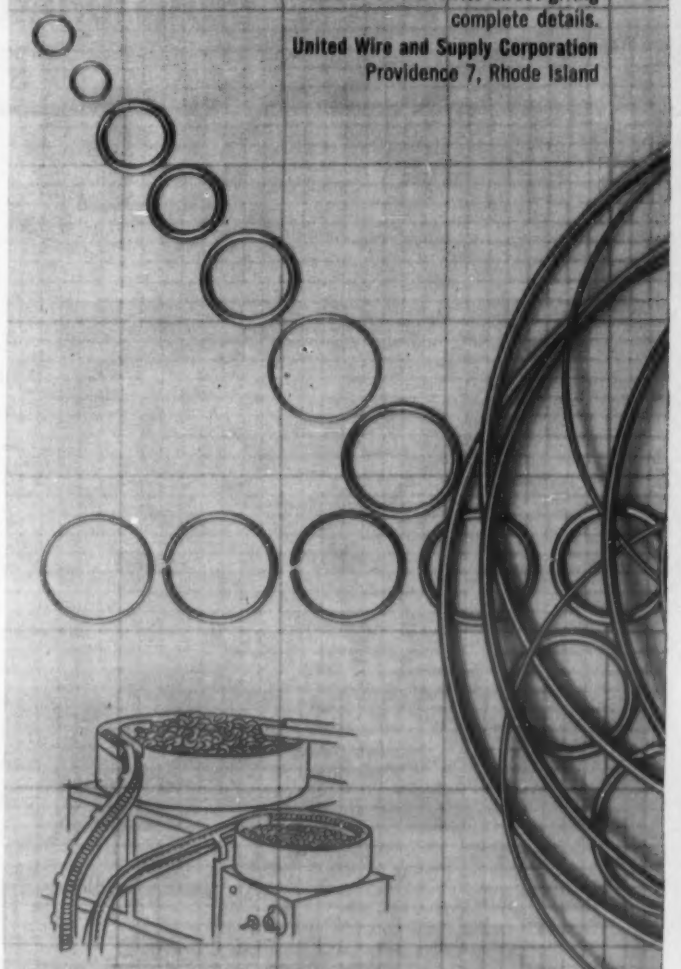
Mason has been supervisor of market analysis for American-Standard's Plumbing & Heating Div. at its New York headquarters since 1956.

Trane Opens Sub-Office

LA CROSSE, Wis. — The Trane Co. opened a new sub-office at 1029½ N. Mills St., Orlando, Fla., Vice President A. C. Menke announced.

James A. Driver, formerly of Trane's Gainesville, Fla. office, has been assigned to the new sub-office.

AUTOMATION
Reason why it pays to Auto-Braze with Phoson and Sil-Bond Brazing Rings
Automated brazing has mushroomed into prominence as a profitable production technique for fast, dependable metal joining. And, it's easily adaptable to most manufacturing processes! United's precision brazing rings are manufactured for automation! Teamed with United's engineering know-how, Phoson & Sil-Bond alloys continue to boost the profit picture for many manufacturing concerns. If fastening costs are one of your problems, why not consult your United Brazing Product distributor . . . or write direct giving complete details.
United Wire and Supply Corporation
Providence 7, Rhode Island



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For aluminum, brass and copper wire and tube
For silver brazing alloys . . . always Specify
UNITED

At Sloan-Kettering Institute

200,000 Rats, Mice Kept Comfortable with Complicated Air Conditioning System

RYE, N. Y.—A highly complicated system of air conditioning and ventilation is working day and night to keep 200,000 mice and rats comfortable, it was reported recently.

The animals are tenants of the Sloan-Kettering Institute's newly-opened Walker Laboratory here, and they play a major role in the institute's continuing campaign to find a cure for cancer.

Designed and constructed by Wigton-Abbott Corp. of Plainfield, N. J., the laboratory building has three floors and about 95,000 sq. ft. of area, but its air-conditioning capacity is approximately 530 tons, unusually high for a building of this size.

The reasons for this heavy load stem from the critical nature of the experimental work conducted in the building, according to Wigton-Abbott.

"The animal rooms are located at the core of the building and close control of the temperature and humidity in these rooms is essential to the welfare of the animals," it was pointed out. "Also, to control odors, the animal rooms are supplied with air drawn from outside and electrostatically filtered.

"The humans haven't been forgotten either. The 140 individual laboratory modules located around the perimeter of the building are also kept comfortably cool.

"But since the animals live in the laboratory building, their comfort is an around-the-clock concern. An operating engineer mans a supervisory control center in the basement of the building. Located here is an electronic panel, made by Minneapolis-Honeywell, that permits constant control and supervision of the humidity and temperature in the rooms.

"If the temperature in any of the rooms dips or rises, an alarm is received on the panel in the control center. The location of the trouble is also indicated, thus immediate corrections can be made.

"An additional precaution was taken with the installation of two compressors to insure continuous air conditioning at all times. Should one compressor fail, the animal room systems can be kept operating by switching to the other.

"The two compressors, made by Carrier, are located in the boiler room. The chilled water from these units is circulated to the cooling coils of the air handling equipment by two 20-hp. Worthington pumps.

"Also located in the boiler room are two 250-hp. low-pressure Cleaver-Brooks boilers, which provide steam to the heating coils of the air handling equipment.

"The laboratory features quite a few technical innovations developed by Wigton-Abbott specifically for its operation. Among these are a revolutionary pneumatic system for the collection and disposal of animal waste, which eliminates nearly all manual cleaning."

IT TAKES ONLY 30 SECONDS
TO PREVENT SCALE · CORROSION · SLIME
IN AIR CONDITIONING SYSTEMS
WITH
*METRO EZ TREAT

*REGD. T.M.

Saves time, money and complications. Triple chemical action in disposable feeder-can works like this:

- Throw algaecide tablets into pan water
- Place feeder-can into pan of evaporative condenser or cooling water

That's all there is to it! Nothing to mix, no elaborate feeding or testing equipment needed. Metro EZ Treat is fool-proof . . . does the job it formerly took 3 separate preparations to do, and does it in seconds!

THROW THESE ALGAECIDE TABLETS INTO PAN WATER

JUST PLACE THE FEEDER-CAN INTO PAN OF EVAPORATIVE CONDENSER OR COOLING TOWER

See our representative in your area or write us for complete information.

Metropolitan Refining Co., Inc.
P.O. Box 70, Long Island City, N. Y.
Date_____
Gentlemen:
Please send me complete information on Metro EZ Treat.
Please send me complete information for treatment of larger air conditioning systems.
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Address_____
City_____ Zone_____ State_____
Att._____ Telephone No._____

METROPOLITAN REFINING CO., INC.
50-23—23rd STREET
LONG ISLAND CITY 1, N. Y.

Dunphy, Cannon Get New Westinghouse Cooling Div. Posts

STAUNTON, Va. — T. J. D. Dunphy and C. E. Cannon have been named to newly-created positions in Westinghouse Electric Corp.'s air conditioning division.

T. J. D. Dunphy

C. E. Cannon

The new posts will consolidate and revise staff responsibilities in the division's marketing organization.

T. J. D. Dunphy was appointed manager of marketing services. He will be responsible for market planning, sales training, order service, traffic, sales finance administration, advertising and sales promotion, and marketing budget administration.

Dunphy has announced that C. E. Cannon, previously director of sales training, would assume responsibility for sales promotion and publicity in the new position of manager of sales promotion and training. National advertising programs will remain under Dunphy's supervision but all other advertising and sales promotion efforts will be the responsibility of Cannon.

Systems Engineering To Be New Name of 20-Yr.-Old Contractor

CHICAGO — Refrigeration Systems, Inc., 20-year-old Chicago air conditioning, heating, and refrigeration contractor, has announced that effective immediately the company will be known as Systems Engineering Corp.

The word "Refrigeration" in the old name has caused confusion and misunderstanding in the face of heavy heating activity during recent years.

Daniel M. Brown, company vice president, said work in the combustion and boiler fields accounts for nearly 50% of the company sales volume.

In reporting the name change, Systems Engineering also announced that the first contract signed under the new name was with the Drake hotel of Chicago.

The contract covers complete air conditioning and heating for the new $2¼ million Drake North hotel, the first of three luxury hotels to be erected by The Drake on the outskirts of Chicago. Systems Engineering had previously installed the guest room air conditioning system at the original Drake hotel.

Radiant Heating Report

PITTSBURGH — A new edition of the special report, "Radiant Heating Slab Construction," has been prepared by the Engineering Service Dept. of A. M. Byers Co., Box 1076, Pittsburgh 30, Pa.

Quattrochi Appointed Taco Sales Manager

CRANSTON, R. I.—Appointment of Peter L. Quattrochi as sales manager, Taco Heaters, Inc., was announced recently by the company.

Quattrochi

Quattrochi's previous position was manager of customer services. He will continue to make his headquarters at Cranston.

Quattrochi is a graduate of Massachusetts Institute of Technology. Before joining Taco, he was employed by General Electric Co. in a sales administrative position.

In his new position, Quattrochi will be responsible for the administration of all field sales and service activities.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

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THE 1959 SPECIFICATIONS GUIDE
Complete 'specs' for all types of air conditioners
Order Today — while the supply lasts
1–9 copies ($1.00 ea.) 10–49 copies ($.75 ea.)
50 or more ($.50 ea.)
AIR CONDITIONING, HEATING & REFRIGERATION NEWS
450 W. Fort St. Detroit 26, Michigan

Mobile Refrigeration Plant Provides Cooling For 2 Fruit Processing Plants 400 Miles Apart

ORLANDO, Fla. — One ammonia high-side system owned by Southern Fruit Distributors, Inc. here provides refrigeration for two fruit processing plants located more than 400 miles apart.

How?

The system is mounted on a truck trailer and commutes between the company's peach plant in Griffin, Ga., just south of Atlanta, and its orange and grapefruit plant here.

The difference in peach harvesting and orange and grapefruit harvesting times makes this a feasible operation.

During the eight to 10 weeks the system is at Griffin, it provides refrigeration for a water bath that cools peaches to 50° F. before packing and shipping. At Orlando, it refrigerates water to chill peeled fruit before it is broken into sections and canned.

On the heavy duty trailer are mounted an 8-cylinder Vilter VMC ammonia compressor of 73.5 tons' capacity with 75-hp. motor and starter, a 4-cylinder Vilter VMC ammonia compressor of 40 tons' capacity with 40-hp. motor and starter, a 160-ton capacity evaporative condenser, a 24-in. diameter Vilter vaporiter, a liquid recirculating pump, and six 16-in. by 7-ft. liquid receivers.

All high-side equipment was furnished by Industrial Refrigeration Co. of Atlanta.

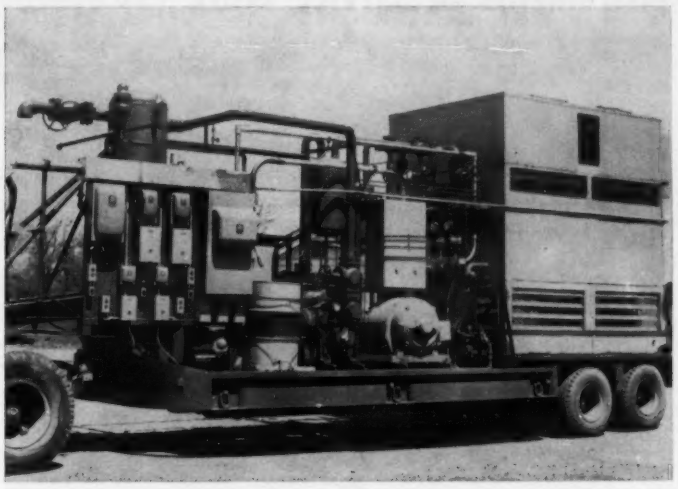
The six liquid receivers were mounted under the trailer within the framework of the platform and were all equalized to function as a single unit. Bullseye liquid level sight glasses were installed because of the possible danger of breaking the standard type of gauge glass during transit.

At Griffin, the cooling tunnel can handle 600 bushels of peaches per hour, bringing them down from 85° F. to 50° F. in three passes. The peaches ride in baskets slowly through the 80-ft.-long tunnel while chilled water washes down through them.

Chilled water is recirculated by four 7½-hp. vertical pumps from a pit beneath the conveyor belt to an overhead water distributing pan with corrugated steel bottom. Perforations in the upper arc of the corrugations distribute the water over the peaches while the valleys provide space for sediment to lodge without plugging the holes, according to Vilter engineers.

The ammonia coils consist of six banks each 19 pipes wide and 4 pipes high by 31 ft. long. They are located beneath the water distribution pan. Pipes are ¾-in. diameter because space did not allow the use of larger pipe.

Since the coils were fairly long it was decided to employ liquid recirculation rather than dry expansion or flooding by static head provided by an accumulator and float valve, Engineers I. Weinberg and K. L. Kraatz said.



VIEW of the trailer on which a complete Vilter high side is mounted. Among the pieces of equipment installed on the trailer are: one 8-cylinder VMC; one 4-cylinder VMC; one VSC 160 Evaporative Condenser; and one 24-in. diameter Vaporiter. The use of this mobile plant has provided a highly practical solution to a troublesome cooling problem.

At Orlando, the cooling tunnel is 2 ft. wide and 25 ft. long. Spray nozzles located overhead distribute chilled water over the fruit. A recirculating pump circulates the water from the collecting pan in the bottom of the cooling tunnel through a shell and tube water chiller and to the spray nozzles.

The shell and tube water chiller consists of a 16-in. diameter, four-pass cooler 16 ft. long. Cooling load here is considerably smaller than at Griffin, where the cooling tunnel is uninsulated.

Trying to find the right man for a hard-to-fill vacancy—the NEWS' Classified Ads are read by your man.

Place your ad today!

REPLACEMENT VALVE PLATES & SEALS for COMMERCIAL, INDUSTRIAL & AUTOMOTIVE REFRIGERATION and AIR CONDITIONING COMPRESSORS (current & discontinued models)

Long life, high speed, easy-to-apply metal to metal faces. No carbon or other cracking materials.

The only valve plate with replaceable seats.

For the most complete line of replacement valve plates and seals See your Wholesaler, or write for bulletin # 807.

CHICAGO VALVE PLATE & SEAL COMPANY
6960 W. Grand Ave.
Chicago 35, Ill.

NEW

ADVANCED DESIGN— FURNAS ELECTRIC CONTACTORS For AIR CONDITIONING, REFRIGERATION, HEATING

These compact contactors are designed for heavy duty service and can be mounted in any position.

- 20, 30, 40 amp, 2, 3, and 4 pole devices all have interchangeable mounting dimensions.
- Molded coil is moistureproof, available with screw terminals, quick connect terminals or leads.
- Magnet design has "No Kiss Potential" feature—positive pull in and drop out. Low inrush characteristic.
- Contactor is not a "throw-away" device. Coils and contacts can be readily changed in the field.
- UL Listing.
- 550 Volt Ratings.
- Pressure connectors on all poles eliminate necessity of looping and bending wires.
- Auxiliary terminals available on all contactors.
- Normally closed poles available.
- Contacts are visible and easily inspected.
- Lugs available on all 40 amp devices to accommodate up to #6 wire.
- One-piece molded arc box and base construction assures positive alignment.
- Available in Open and Nema 1 enclosed types. Wrap-around cover facilitates ease in wiring.
- Contacts are of premium-grade Silver-Cadmium Oxide material. All contact springs are stainless steel.

CLASS 41
ACTUAL SIZE

Furnas also features a complete line of controls for your particular application. Some of these are:

—20, 30, 35, 50 amp current rated starters for use with hermetic motors.
—Industrial starters through 100 HP.
—Part-winding starters, through 200 HP.
—Reduced voltage primary resistance starters.
—Reduced voltage autotransformer starters.
—Special Control Panels.

CONTACTOR RATINGS

RATINGS	20 AMP		30 AMP		40 AMP	
	240 V	550 V	240 V	550 V	240 V	550 V
FULL LOAD	20	10	30	15	40	20
LOCKED ROTOR	120	60	180	90	200	100

SPECIFICATIONS

CONTACT RATINGS	20, 30, 40 amp continuous duty. Contacts replaceable.
CONTACT TERMINALS	Pressure connections on all models.
COIL TERMINALS	Screw type, quick connect type or leads. Coils can be easily changed.
COIL RATINGS	6 to 550 Volts A.C.
POLE ARRANGEMENT	2 - 3 - 4 pole normally open. (Normally closed available on request.)
ENCLOSURES	Open type and Nema 1.

FURNAS ELECTRIC COMPANY
BATAVIA, ILLINOIS
SALES REPRESENTATIVES IN ALL PRINCIPAL CITIES

WRITE FOR FREE BULLETIN 41-B1

Advances In Heat Transfer Design Discussed at Wolverine Seminars

ALLEN PARK, Mich.—Seminars on advances in heat transfer design were held in ten major cities under the sponsorship of Wolverine Tube Div., Calumet & Hecla, Inc.

The chief lecturer was Dr. Donald Q. Kern, president, D. Q. Kern Associates, one of the nation's leading experts on thermal design and application. He was assisted by Dr. K. J. Bell, a member of the faculty at Case Institute and a specialist on Dr. Kern's staff.

Dr. Kern discussed the design of reboilers, condensers, partial condensers, and extended surfaces. He also presented a paper on the design and operation of a waterless plant. This covered the design and application of the air-fin cooler and the design of a thermal plant that could run forever without cleaning, it was pointed out.

Dr. Bell discussed what has been learned about convection from the ASME University of Delaware test program and the heat transfer implications of nuclear engineering and the computer on design.

The seminars were part of a continuing Wolverine program to further research in the field of heat transfer. Attendance consisted of engineers from the process industries. Seminars were held in New York City, Chicago, San Francisco, Philadelphia, Cleveland, St. Louis, Tulsa, Los Angeles, Baton Rouge, and Buffalo.

TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

Instruments In Service Work (9)

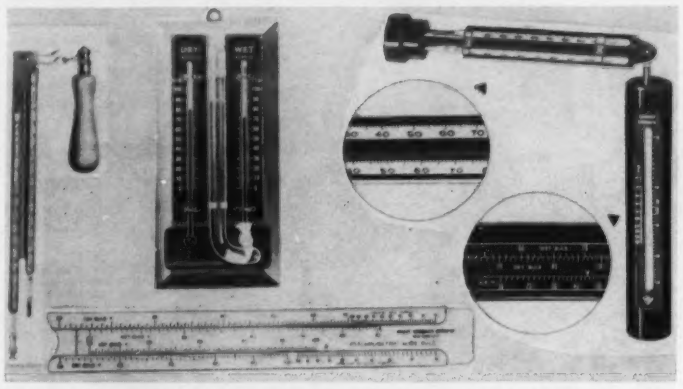


FIG. 14—Illustrating sling and stationary psychrometers, and typical slide rule aid for determining relative humidity from wet and dry-bulb readings.

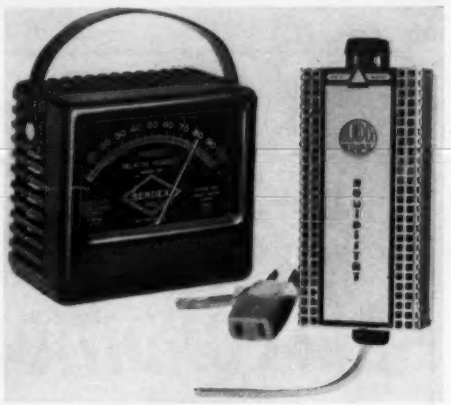


FIG. 15—At left a typical meter for indicating relative humidity directly. At right, one type of humidistat used for humidity control.

Humidity Measurements

For the serviceman, nothing can quite replace the familiar sling psychrometer for measuring relative humidity. As shown at the left and right of Fig. 14, the sling psychrometer consists of two thermometers, one each for measuring wet bulb and dry bulb.

The simplest kind require working further with a chart, slide rule, and graph to determine RH from the two temperature readings. Others have built in arrangements for determining RH from the readings.

Simple permanently mounted dual thermometer psychrometers are also available as typified in the center of Fig. 14. Many companies issue or supply the slide rule or other aids needed to determine RH from the wet and dry bulb readings.

Where it is necessary or desirable for the relative humidity reading to be indicated directly —without recourse to supplementary aids—direct reading meters are available as illustrated at the left of Fig. 15. Such instruments are especially valuable in commercial and industrial establishments where operating procedures require close humidity control and non-technical people must maintain surveillance.

In such cases, too, it is frequently desirable to leave control of humidity to the same personnel, in which case a humidistat like that shown at right in Fig. 15 is called for. As desired, such humidistats may or may not be supplied for easy field adjustment by operating personnel.

Typical suppliers of humidity indicating and controlling instruments are: Bacharach Industrial Instruments Co., 200 N. Braddock Ave., Pittsburgh 8, Pa.; Barber-Colman Co., 1700 Rock St., Rockford, Ill.; Bristol Co., P.O. Box 1790 ACR, Waterbury 20, Conn.; Friez Instrument Div., 1400 Taylor Ave., Towson 4, Md.; Minneapolis-Honeywell Regulator Co., Industrial Div., 2753 Fourth Ave., S., Minneapolis 8, Minn.; Moeller Instrument Co., 132nd St. & 89th Ave., Richmond Hill 18, N. Y.; Serdex, Inc., 12 Bowdoin St., Boston 14, Mass.; and Weksler Instruments Corp., 195 E. Merrick Rd., Freeport, L. I., N. Y.

NEXT: Air Measurements

White-Rodgers 1959-60 Catalog Covers Line

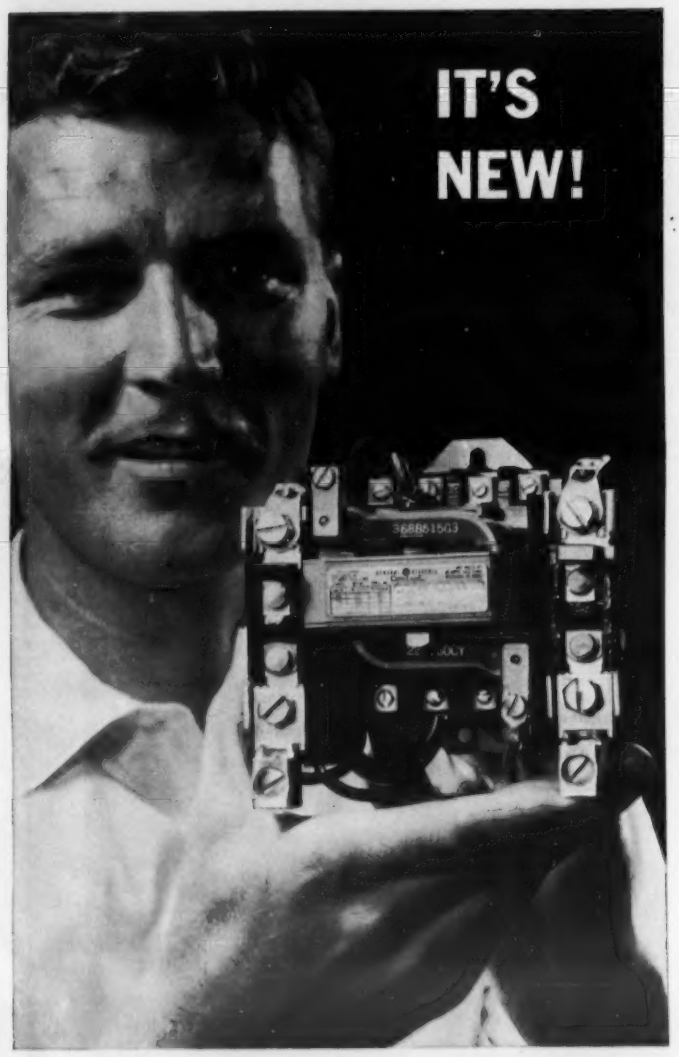
ST. LOUIS—A new 1959-1960 catalog was recently released by White-Rodgers Co.

Listing the firm's entire line of automatic controls for heating, refrigeration, and air conditioning, the 56-page catalog contains many new products and is the largest ever released by White-Rodgers.

Among products carried for the first time are 10 new models of the "Silent Knight" series gas valves and a line of small solenoid valves.

The low-voltage "CUSTOMline 130" room thermostat and a variety of electric heat controls are shown for the first time, along with a group of combination zone control packages for both warm air and hydronic systems. Also included are the Type 635 two-piece oil burner control plus a complete line of CUSTOMline fan and limit controls.

Copies can be obtained at any White-Rodgers sales office, or by requesting Unit R-1650 from White-Rodgers Co., 1209 Cass Ave., St. Louis 6, Mo.



"I bought General Electric's NEW 60-amp air conditioning starter"

". . . and I'll buy a General Electric starter for *all* of my commercial air conditioning installations. Why? Because the new 50- and 60-amp contactors and starters give me the two things I want most in a starter: small size and ruggedness.

"And they give me other benefits too; like straight-through wiring, pressure-type terminals, and quick-trip overload relays to protect hermetic compressors. I bought a 60-amp starter, but you can also get 30-, 40-, and 50-amp contactors and starters. It all depends on your air conditioning application. And you can get that settled pretty quickly. Just call your nearby General Electric Apparatus Sales Office." (For information, write Section 731-18, General Electric Co., Bloomington, Illinois.)

GENERAL ELECTRIC

TEL-TRU

18-8 STAINLESS STEEL

TESTING THERMOMETERS

EASY TO READ—NON BREAKABLE

All Popular Dial Ranges Fahrenheit or Centigrade

POCKET TYPE, Model PT50, Service Man's Spot Check. Dial diam. 1", Stem 5" Long. — Hard Rubber Pocket Case.

GENERAL TYPE, Model GT-100, Dial diam. 1¾", Stem 8" Long. Adjustable Vessel Clasp and Preset Indicator for Marking Temperature.

THREAD TYPE, Model GT-200, Standard ⅛" NPT. Stainless Steel Connection Nut. Standard Stem Lengths: 2½", 4", 5", 6", 8", 10", 12", Measurements Include Thread.

Stem diameters .140" and .150"

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Subsidiary of Gormanston-Simon Machine Co., Inc.

FIELD SERVICE REPRESENTATIVE

Wanted for Ohio and surrounding areas. Room air conditioner, freezer, and refrigerator experience. Willingness to travel, and ability to assist distributors with service training programs are requisites. Possibilities of openings in other areas soon. Send full particulars of background, experience, snapshot of yourself and salary expected, to

CHARLES E. NICHOLS,
SERVICE MANAGER,

AMANA REFRIGERATION INC.
AMANA, IOWA

Refrigeration Problems
And Their Solution
(As Written by Paul Reed)

Cold Weather Problems (3)

By 1930, the old-time butcher shop was well on its way out. Largely due to mechanical refrigeration, it became possible to unite the butcher shop and the grocery in a single room. Fresh and cured meats, milk, butter, and other fresh food products could all be kept in mechanically refrigerated display cases and reach-in refrigerators, and the butcher shop became merely a department of the food market.

MECHANICAL REFRIGERATION PERMITTED BETTER DISPLAY OF MEATS

The emphasis began to be on display; enabling the butcher to pre-cut some of the meats into steaks, chops, and roasts. He could serve the customers faster and they could see and select the particular cut that took their fancy.

The old slaughter house was also fast becoming a thing of the past. By this time, most markets bought their meats from packing houses. They could get daily deliveries, which permitted better turnover and less trimmage. Many merchants did away with their walk-in coolers and depended entirely on display cases (still the enclosed type, however), and reach-in refrigerators.

The result of all this was that as far as meat markets were concerned, the problem of cold location of the refrigerated fixtures just about cured itself, for these fixtures were now in a warm room. Modern merchandising methods demanded that the market be kept warm and comfortable, so that customers could more leisurely do their shopping. The merchants found that as a result, the customers bought more merchandise than in a cold, disagreeable butcher shop.

The problems arising from the refrigerated fixture being located in a cold place were not and are not, even today, confined to the meat market, however. The problems for other types of applications are similar and the butcher shop was used as a typical example of the effects of a cold location of the refrigerated fixture.

This same problem is still encountered in other applications, a very common one of which is the farm dairy. Like the old-time butcher, the farmer is accustomed to heat the milk house very little, if any. Moreover, it is used only a few hours a day.

HUMIDITY NO PROBLEM WITH SOME PRODUCTS

However, the problems arising from the milk cooler being in a cold location are not as acute as those of the meat market where the appearance of the meat is an important factor. An unappetizing surface appearance of meat will affect its salability even though the meat is quite nutritious and edible.

Thus the problem of cold location of the refrigerated fixture is very largely a matter of maintaining a salable appearance as far as meats are concerned. This same factor does not apply to such products as milk, bottled drinks, canned goods, and many other products which are protected from drying, molds, etc., or which, by their very nature, are unaffected by humidity conditions.

For such products it is therefore merely a matter of maintaining correct temperatures with little regard to the humidity. This, of course, greatly simplifies any problems arising from a cold location of the refrigerator in which such products are kept. For these products, the use of a simple thermostat control is usually all that is necessary to assure adequate temperature control.

TOO COLD IS A PROBLEM ALSO

So far, we have been chiefly concerned with keeping the food cold enough, and the humidity and air circulation within acceptable limits. There are applications in which we must be concerned with the products becoming too cold. In some of these applications, the product may not be permanently damaged, but in others too low temperatures may completely ruin the product or its container, or may cause damage to the refrigerating equipment.

If the temperature around a walk-in cooler in which frozen food is stored at -5°, falls to -5° or even lower, no damage will be done to the frozen food nor to the cooler or the evaporator.

If the temperature around a walk-in cooler in which butter or cheese is stored at 36°, falls to 32° or even below freezing, the cheese or butter will suffer no perceptible damage. The same is true of furs; in fact, they would even benefit by an occasional freezing.

On the other hand, eggs, flowers, vegetables, milk, beer, bottled drinks, and similar products that would be damaged by freezing must be protected against low temperatures in the cooler that may result from below-freezing temperatures around the cooler.

PROTECTION AGAINST FREEZING

These products or their containers, or both, will be damaged by freezing temperatures. Most water coolers, draught beer coolers, and bulk milk coolers will be damaged by freezing temperatures outside the coolers that are low enough and of long enough duration to cause the liquids inside the coolers to freeze.

The damage to the coolers may be much more serious and more costly than the damage to the product itself.

In those instances in which the temperatures surrounding the cooler fall below freezing, one remedy is to heat the room in which the cooler is located; or as is more commonly done, to supply heat inside the cooler itself.

In most installations, foresight can usually prevent the cooler from being subjected to below-freezing temperatures. If there is a possibility or probability of below-freezing temperatures around the cooler, every effort should be made to install the cooler in some other location, or to provide heating to the room in which the cooler is located.

(To Be Continued)

Filter Selection, Maintenance Described

WASHINGTON, D. C. — A new research report prepared for the Federal Construction Council by the Building Research Advisory Board is titled "Selection and Maintenance of Air Filters."

It presents data on the performance of various types of filters, operation and maintenance costs, selection procedures, and the recommendations of the task group. Also included is an evaluation of the replies received from a questionnaire sent to both government and industry people.

Copies of the 34-page report may be ordered from Publications Office, National Academy of Sciences-National Research Council, 2101 Constitution Ave., Washington 25, D. C. for $1.50 each.

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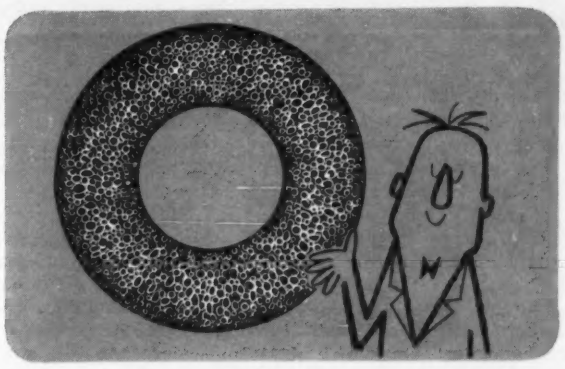
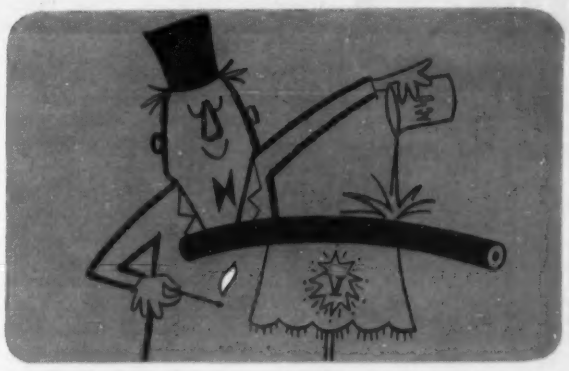
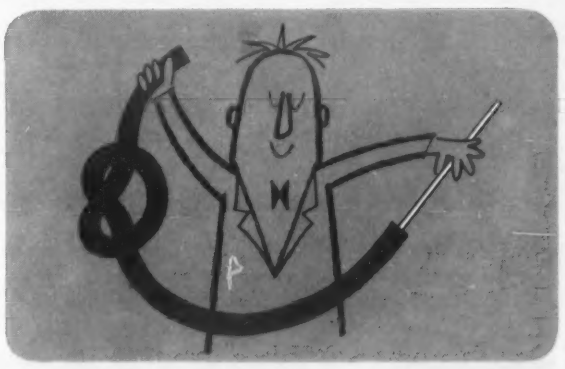


The new, fast way to stop dripping pipes! The closed-cell structure of Vasco-Cel insulation makes condensation impossible. It also gives practical thermal insulation at temperatures as high as 220°F.



Vasco-Cel insulation gives extra safety, too. Made from self-extinguishing material that will not feed a fire—cannot carry flames along pipes from room to room. It is resistant to acids, oil and fungus.



Soft—so flexible you can tie it in knots—durable, clean and odorless—Vasco-Cel is ideal insulating material. Slips on easily over tube or pipe or can be slit lengthwise and fitted onto pipe already connected. Cement it together permanently with Vasco-Cel Adhesive. ID's from ⅜ to 3⅛ in. Fabricated in 6-ft. lengths.

Vasco-Cel is the newest in a complete line of insulation products for refrigeration. Get Vasco-Cel, Permagum Slugs & Cords, and Presstite Tape from your nearest "Virginia" wholesaler. For complete information, write Refrigeration Division, VIRGINIA SMELTING COMPANY, 194 Jefferson St., West Norfolk, Va.

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Catholic Newspaper To Get Largest Heat Pump Installation In U. S.

SYRACUSE, N. Y.—Heating and cooling for the new $5 million publishing house under construction in Huntington, Ind. for *Our Sunday Visitor*, widely circulated Catholic newspaper, will be provided by "the largest heat pump system in the country and possibly the world," according to Carrier Corp.

It is believed to be the first printing establishment served by a major heat pump installation, Carrier said.

Receipt of a contract for three 500-hp. water chilling machines, which will supply the needs of the 200,000-sq. ft. office and printing plant for cooling as well as heating, year-round, was announced by Charles V. Fenn, vice president of Carrier.

Construction of the machines will begin at once at Syracuse headquarters of Carrier. They will be assembled at the job site next spring by Baker-McHenry Co., mechanical contractor of Indianapolis. The entire project is expected to be ready for occupancy by January, 1961.

According to Fenn, the majority of heat pump installations to date have used piston or reciprocating refrigerating compressors. In lieu of pistons, his firm has developed a system using the rotative action of impeller wheels spinning at high speeds in centrifugal refrigerating compressors, he noted.

Herbert T. Owen, Huntington district manager for Public Service Co. of Indiana, Inc., which will supply electric power for driving the heat pumps, said only a small amount of supplementary heating equipment will be installed as a precautionary measure. "If used at all, it will be over weekends or long holidays," he added.

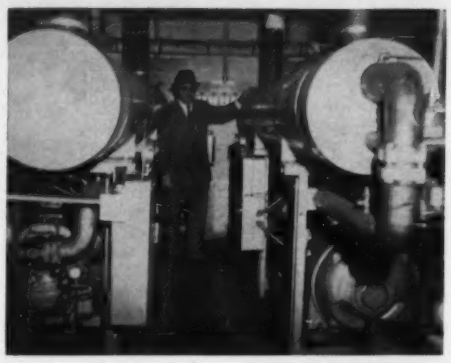
The modern printing center, located on a 14-acre site at the eastern edge of Huntington, will consist of a two-story office and windowless plant. Its steel framework will be covered with red brick.

Totally enclosing production spaces cuts down variations resulting from outside weather. According to F. A. Fink, managing editor of the religious weekly, "Maintaining constant temperature and humidity is essential to fine printing operations. Furthermore, good lighting will prevail in all areas regardless of season."

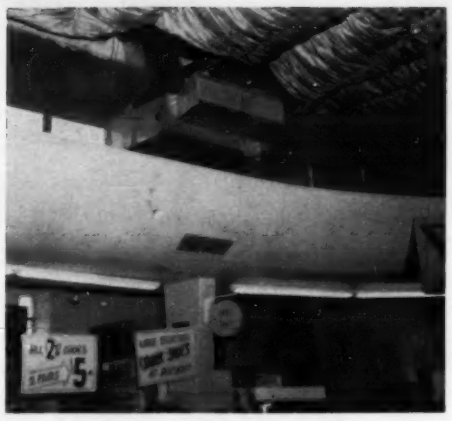
Developers of the plant and its system for control of indoor climate were charged with designing a building with reasonable initial cost and economical operating expense, Fink added.

Mox Pohlmeyer & Associates of Ft. Wayne, Ind. is architect for the structure, in cooperation with Bevington, Taggert & Fowler, consulting mechanical engineering firm of Indianapolis.

How Roller Rink, Turned Discount House, Was Air Conditioned Without Ductwork



EMIL J. MERENDA, vice president of M & R Air Conditioning Corp. poses with the two Acme 40-hp. water chillers that provide cooling for the converted roller skating rink that is now a discount house.



ONE OF THE AIRTHERM heating units that have been converted to do both cooling and heating jobs. Mounted on a balcony, they take up no sales floor space in the crowded store.

BROOKLYN—Air conditioning and heating a roller skating rink turned discount house put the ingenuity of M & R Air Conditioning Corp. here to the test—and company engineers were not found wanting.

They were faced, according to Emil J. Merenda, vice president of M & R, with a big barn of a building—a completely open structure covering some 300 by 200 ft.

The brick building, in a working class section of Brooklyn, has had a rather checkered past. Until three years ago, it was used as a roller skating rink—but not too successfully.

Then it was leased out as a farmers' market to small concessionaires. This didn't prove very successful either. Finally, the building was taken over by a large New York City chain called Times Square Stores.

Times Square continued leasing space to small concessionaires who sell anything from neckties to sirloin steaks. But it put its own advertising and promotion weight behind the project. This added push brought success. So much so that the owners decided they could afford to air condition the place—if it didn't cost too much.

They had a few other stipulations, too, according to Merenda. There was to be no ductwork and the equipment could take no valuable floor space—already bulging with an endless variety of merchandise for sale.

Within this framework, M & R engineers went to work. They came up with a system that met with management approval. It has operated successfully through an entire year.

To do the air conditioning job, Merenda installed two 40-Acme water chillers powered by Carrier compressors in the basement. A well was sunk to tap 56° F. water for condensing purposes. With condensing water at this temperature, the system will produce 90 tons of refrigeration.

By using two 40-hp. chillers, Merenda said, Times Square eliminated the need for a stationary engineer, required by the city for circuits of 50 hp. and more.

The building had previously been heated by a steam boiler serving four Airtherm heating units mounted on a balcony about 30 ft. above the sales floor. Merenda retained these and converted the Airtherm units to do the cooling job too by enlarging the coils and increasing the size of the fan motors.

He supplemented them by adding two Dunham-Bush air handling units of 8,000 c.f.m. capacity each.

Two Airtherm units and one Dunham-Bush unit are spaced equidistant along one side of building. The remainder of the units are similarly installed along the opposite wall. All discharge cooled or heated air toward the center of the sales floor. Each unit is controlled by a thermostat located on the sales floor.

Changeover from heating to cooling is done manually.

The chillers are controlled sequentially so that after the load is brought down to desired temperatures, only one chiller need be operated to maintain it. The other cycles in and out as needed.

Controls are arranged so that condensing water pump must be operating before a compressor will cut in. Used condensing water is dumped into a diffusion well.

Glen Alden Reports 6-Month Earnings Of $8,321,709

NEW YORK CITY—Consolidated earnings of Glen Alden Corp., parent firm of the Mathes Co., for the six months ending June 30 were $8,321,709 before depreciation, depletion, and amortization of $2,140,240.

Net earnings per share were $1.11 based on 5,566,034 shares outstanding. Because of previous losses, no Federal income taxes apply to Glen Alden's earnings.

Included in the profits is a net gain of $2,500,285 on sale of properties. The major part of this transaction was under contract dated May 18, 1959 and consummated July 30.

Glen Alden and List Industries were merged on April 21, 1959.

The above earnings include List Industries operations since Jan. 1, 1959.

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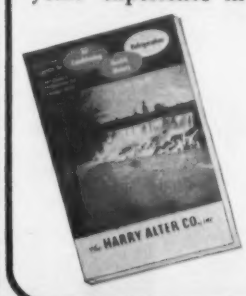

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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

Novi Moves--

(Concluded from Page 1, Col. 5)

tributing firm, Novi Sales and Service Co., Inc. will be located at the "Detroit" warehouse of Novi Sales and Service Co., Inc. in suburban Oak Park, Mich.

Welch further disclosed that operation of the 39 retail stores of Novi Sales and Service Co., Inc. scattered across the country would be discontinued. Instead, nine of the present stores will be maintained for the warehousing and distribution of Novi automobile air conditioners.

Detroit, Philadelphia, Atlanta, Miami, Kansas City, Fort Worth, Houston, Phoenix, and Los Angeles have been selected as warehouse centers.

These strategic locations will permit overnight delivery to most areas, thereby eliminating the necessity for dealers to carry large inventories, he said.

"Our program of closing the Novi Sales and Service outlets has led to rumors that Novi is getting out of the business," Welch noted. "This is not true; we are going to be in full production at our new location. Upon completion of the 1959 production, we will start production on the 1960 models."

He added that in each city where a retail store has been closed, independent dealers either have been, or are being, selected to handle the Novi line. In the future, he stated, Novi will increase its sales efforts through independent retailers. It is currently seeking additional dealers.

Welch pointed out that the company's 1959 production and sales were hampered by drawn-out labor difficulties which interferred with production in the peak of the sales season. He does not anticipate similar trouble for next year because the better labor conditions which exist in Los Angeles will permit them to assume a more competitive position.

It was announced that when the 1960 models are introduced, they will feature for the first time, a Novi magnetic cycling clutch. The under-dash models will incorporate two centrifugal blowers behind the evaporator, instead of fans, for quieter operation.

An additional feature for 1960 will be Novi's new auxiliary trunk unit which, when installed in conjunction with the under-dash unit, solves the problem which all automotive air conditioner manufacturers have encountered in attempting to overcome the increased heat load inside the 1960 model cars.

Gas Heat Financing--

(Concluded from Page 1, Col. 2)

who wish to use the gas utility's financing plans must sign an agreement to abide by certain stipulated practices.

Where the purchaser of the replacement gas-fired heating equipment passes a credit check, the purchase can be financed on a no down payment basis, with financing at 6% per year on the original unpaid balance. There is no minimum monthly payment requirement.

The financing plan is on a 12-months' recourse basis with the dealer who makes the sale.

All You Have To Do Is Push the Button

OBVIOUSLY ENJOYING HERSELF, a typical Russian housewife investigates a typical all-electric kitchen in the American Medallion Home at Sokolniki Park, Moscow. The all-electric kitchen features a built-in oven shown, a counter-top cooking unit, combination washer-dryer, combination refrigerator-freezer and a water heater—all yellow and white.

Some People Can Really Concentrate

DESPITE DISTRACTIONS like singer Sheila Reynolds, this 15-ton Westinghouse water-cooled air conditioner was installed and operating in just 5½ hours for the Fountainhead club in New Hope, Pa., to provide cooling for a "full house" anticipated for the weekend. A previous check by M. Silver of Tempco, Inc., distributor, indicated the club had adequate wiring, and as a temporary measure condenser water was discharged into the club's swimming pool through hose. Installation was made by National Heating & Air Cooling of Philadelphia. Another 25 tons was scheduled to be installed later.

NARDA Stand on Long Warranties--

(Concluded from Page 1, Col. 2)

You who has to go up to the Better Business Bureau and explain that the manufacturer's warranty just covered parts after a given period of time. You who loses a customer and maybe a friend because a manufacturer chose to advertise warranty rather than features and chose to print more extended time periods in his literature than make sense from the standpoint of his and service teammates."

The automotive industry "works far differently" said the NARDA executive. He described the extended parts warranties policies as viewed by the automotive industry "with products involving far fewer parts and many times the dollars ours do" as follows:

"The repairs are made by independent, franchised businessmen qualified to do the job in the automotive industry. The factories compensate them fairly for such repairs and none of this business of paying the freight one way and having to fill out a complex form to get a replacement part that's worth a fraction of the free labor you had to kick in.

"Since the factory knows that it—not the dealer—is going to pay for mistakes made at the factory level, we find two very significant things happening:

"1. Quality control and inspection is beefed up to a point where the likelihood of really major, costly new repair is reduced as far as the manufacturer's technological knowledge will permit.

"2. Warranties run for 90 days or 4,000 miles, whichever the motorist reaches first."

In his comments on centralized factory service,, Bernsohn commented that "every time you permit a Big Brother Manufacturer to step in and take over part of your burden as a responsible businessman, he feels a moral obligation to take over at least a proportionate part of your profits.

"Some factories and distributors say that their merchandise is being sold by irresponsible people and serviced by fast-buck artists and therefore they must step in and take care of service to protect their name.

"It sure seems to me that if I wanted my good name protected, I'd deal with the kind of folks who would be likely to protect it, not with people who, by the manufacturers' own admission, didn't give a darn about the standing of the brands they sold and serviced.

"It's simply impossible to give full rein to your intelligence and come up with justification from the retailer's or service dealer's standpoint for compulsory central service by factories! It's difficult to see where this makes sense even from the factory's standpoint."

Bernsohn had opened his discussion by telling his audience to "be entrepreneurs."

"By this we mean be independent, and shoulder the responsibility that comes with independence. Deal with people who respect your right to make your own decisions and your role in the industry as a professional.

"Be a good businessman who knows his operating costs and the productivity of each of his men and enough of an executive to correct faults in these things when he encounters them.

"Be an entrepreneur in doing something creative in your field. Put imagination and power into your ads. Plan specials that even out the work load so that your people are employed productively all year around.

"By setting your own courses and not permitting that work to be taken over by factory or distributor, by dealing with the firms that respect your right to make your own primary business decisions, and by vigorously opposing any compulsory central service program and unreasonable extension of warranties, you prove that you're an entrepreneur."

More efficiency
greater capacity with
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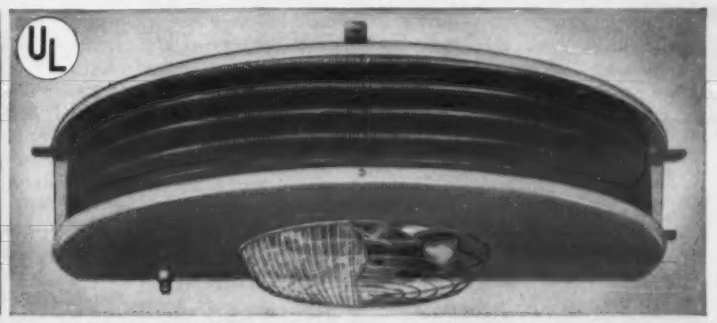

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5960

Servicing Automobile Air Conditioners

(Vol. 4 — 1959 Models)

BY C. DALE MERICLE

With this issue we continue the fourth series of articles describing service procedures on automobile air conditioning units. In these instalments 1959 models of the leading "independents" and automobile manufacturers are being described in detail.

As with the previous series, these articles are intended for the refrigeration serviceman who has a good grounding in fundamentals backed with practical experience.

Previous articles covering earlier models of many makes of units are available from the NEWS in manual form as Vols. 1, 2, and 3 of "Servicing Automobile Air Conditioners." Vol. 3 being devoted to 1958 models.

Performance Chart for 1959 Oldsmobile

Ambient At Cowl Inlet Relative Humidity (%)	Ambient At Cowl Inlet Temp. (°F.)	Evaporator Pressure (At Schrader Valve) (p.s.i.g.)	Engine Speed (r.p.m.)	Discharge Air R.H. Nozzle (±1°F.)	Head* Pressure ±5 (p.s.i.g.)
20	100	34	520-550	40	215
20	110	34	880-980	41	265
30	90	34	520-600	41	180
30	100	34	700-760	43	235
30	110	34	1300-1500	44	287
40	80	34	520-605	41	153
40	90	34	615-785	44	196
40	100	34	1080-1180	46	254
40	110	34	1810-2000	48	314
50	70	34	520-600	41	112
50	80	34	520-600	43	162
50	90	34	805-850	47	212
50	100	34	1460-1560	49	274
50	110	34	2300-2500	52	335
60	70	34	520-530	41	117
60	80	34	600-670	44	172
60	90	34	920-1020	48	228
60	100	34	1825-1995	52	293
70	70	34	520-550	46	121
70	80	34	700-750	46	182
70	90	34	1200-1280	51	244
70	100	34	2190-2390	55	313
80	70	34	520-600	42	123
80	80	34	750-850	47	191
80	90	34	1450-1550	53	260
80	100	34	2660-2860	58	333
90	70	34	600-700	43	125
90	80	34	830-930	49	200
90	90	34	1840-1940	55	275

*The low pressure reading should be 1 to 2 lbs. lower than evaporator pressure.

Oldsmobile (2)

Oldsmobile Div.
General Motors Corp.
Lansing 21, Mich.

Service Procedures

Service procedures on the 1959 Oldsmobile unit are essentially the same as those for the 1957 and 1958 models. This likewise applies to the "road test" and "performance test," although some details differ.

For the "road test" drive the car at 20 m.p.h. with the temperature control lever at extreme right, "Normal" control button depressed, blower set at high speed, car windows and doors closed, and a thermometer in right air discharge nozzle. This test should be repeated with the car running in opposite direction to cancel any wind effect.

Results with a normally operating system should be as follows:

Ambient Temp. (°F.)	Relative Humidity	Right Air Outlet Temp. (°F.)
70	50	41
70	60	41
70	90	43
80	50	43
80	60	44
80	90	48
90	40	43
90	50	46
90	60	50
100	20	45
100	40	53
100	50	57

If results of the "road test" differ substantially from the above, it is advisable to conduct a "performance test." This is done with car doors and windows closed, temperature control lever at extreme right, "Normal" button engaged, blower on high speed, an auxiliary fan in front of the condenser, and hood down as far as possible with openings covered.

Results should correspond to the data given in the accompanying performance chart if the system is operating satisfactorily.

●

FRIGETTE

Frigiquip Corp.
3724 N. May Ave.
Oklahoma City, Okla.

Under-dash Frigette air conditioning unit marketed in 1959 is designated as Model 580. Essentially the same unit was marketed in 1958 under the same model number. The service instructions given in Vol. 3 on the 1958 unit will therefore apply also to the 1959 Frigette.

The Frigette system follows the conventional arrangement of having the condenser in front of the car radiator, the compressor mounted on the engine and driven through a magnetic clutch, and the evaporator assembly mounted beneath the dash.

Receiver and sight glass are located in the engine compartment.

Evaporator assembly includes the evaporator coil, expansion valve, fan, three round adjustable air outlets, and controls.

Two rotating control knobs are employed. One on left turns fan on or off and permits selection of fan speed. One on right is attached to adjustable thermostat which turns magnetic clutch on or off and cycles the clutch and compressor to regulate amount of cooling.

Refrigerant-12 is used in the Frigette system. Full charge is 2 to 2½ lbs.

Service hints given for the 1958 Frigette unit will also apply to the 1959 model.

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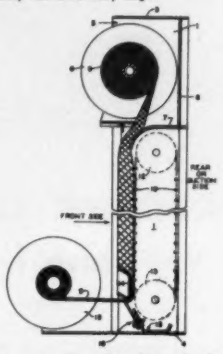
PATENTS

Week of April 14 (Concluded)

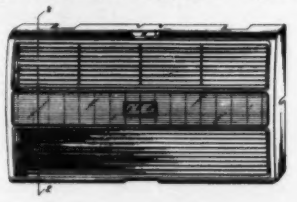
2,881,861. AIR FLOW SEAL FOR AIR FILTER HAVING AN EXPANSIBLE-CONTRACTIBLE AIR CLEANING WEB. Ivan W. Dyer, Louisville, Ky., assignor to American Air Filter Co., Inc., Louisville, Ky.



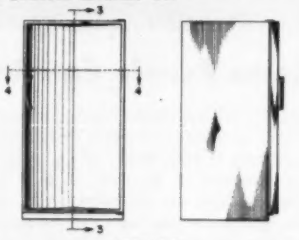
1. In an air cleaning device employing an elongate web of expansible compressible air filtering media displaceable from a compressed conditios in a supply zone through an air filtering zone to a discharge zone, an airflow seal for the web in the discharge zone comprising a compression plate disposed transverse to the direction of web advance against which one surface of said web is maintained in compressed relation. . . .

DESIGNS

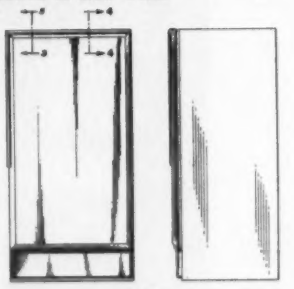
184,863. FRONT PANEL FOR AN AIR CONDITIONER HOUSING. Joseph Federico, Buffalo, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



184,864. REFRIGERATOR CABINET. Robert R. Fink, Chicago, Ill., assignor to General Electric Co.

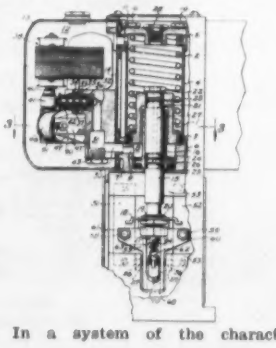


184,896. REFRIGERATOR CABINET. Ray C. Sandin, Northbrook, Ill., assignor to General Electric Co., a corporation of New York.



Week of April 21

2,883,682. FLUID PRESSURE OPERATED CONTROL MECHANISM. William A. Ray, North Hollywood, Calif., assignor to General Controls Co., a corporation of California.

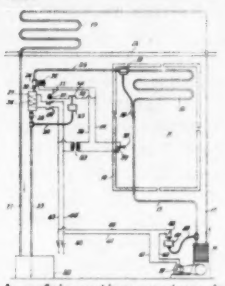


1. In a system of the character described: a fluid-pressure motor having an actuator, a source of motion for creating fluid pressure to operate the motor for moving the actuator in one direction, as well as means for urging the actuator in the other direction while said source of motion is ineffective. . . .

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

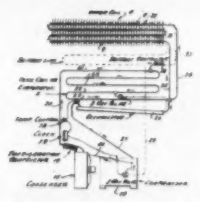
Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D. C.

2,882,695. MEANS FOR AND METHOD OF PREVENTING FAILURE OF REFRIGERATOR OPERATION. Joseph Zwicki, Chicago, Ill., assignor to Refrigeration Appliances, Inc., Chicago, Ill.



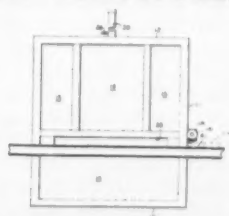
1. A refrigerating system in which a refrigerant is circulated and having a low pressure portion which includes an evaporator, an expansion valve through which liquid refrigerant is suppliable to the evaporator, and a high pressure portion from which liquid refrigerant is suppliable to the expansion valve and in which pressure is normally maintained sufficiently high to force liquid refrigerant through the expansion valve to the evaporator. . . .

2,882,696. DEFROST SYSTEM FOR REFRIGERATED CABINETS. Bernard L. Herrmann, Affton, and Lester P. Reifeiss, House Springs, Mo., assignors to Anheuser-Busch, Inc., St. Louis.



1. A refrigeration system including a compressor, a condenser, and a refrigeration restriction operatively connected for circulating refrigerant, an upper evaporator and a tank evaporator each having several coils for receiving refrigerant, the coils of said tank evaporator arranged one above the other along the wall of a tank or food compartment, the coils of said upper evaporator positioned above the level of said food compartment, an accumulator mounted between said tank evaporator and said compressor, a bypass line extending from said tank compressor to a defrost coil adjacent to said upper evaporator. . . .

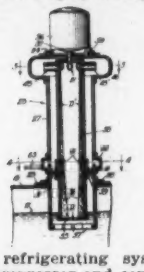
2,882,697. AUTOMATIC PLATE FREEZER FOR CONTINUOUS FREEZING OF FOOD PRODUCTS. Pasquale Amerio, Erskine Lakes, and August L. Kraft, Roselle Park, N. J., assignors to Amerio Refrigerating Equipment Co., Inc., Union City, N. J.



2. An automatic freezer apparatus comprising, in combination, a housing having a slot-like charging opening in one wall thereof for boxes of food to be frozen and a discharge opening for the frozen boxes in an opposite wall, a plurality of superimposed freezer plates, a cradle comprising upper and lower interconnected frames supporting said platens, power means for rais-

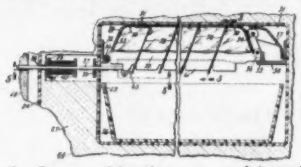
ing the cradle to successively position two adjacent plates in line with the openings. . . .

2,882,696. REFRIGERATING SYSTEM. John R. Boyle, Chicago, Ill.



6. In a refrigerating system comprising a compressor and condenser for compressing and condensing a refrigerant, and an expansion valve and evaporator for expanding and evaporating said refrigerant, the combination therewith of a surge drum connected between the outlet of said evaporator and said compressor for intercepting liquid refrigerant carried over from said evaporator, a substantially constant level chamber receiving said liquid refrigerant from said surge drum. . . .

2,882,700. ICE BLOCK EJECTING ARRANGEMENT. John T. Marvin, Xenia, Ohio, assignor to General Motors Corp., Detroit, Mich.

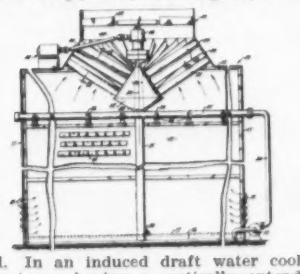


1. In combination, a refrigerator cabinet having an insulated chamber therein and an insulated door pivotally mounted on the cabinet and providing access to said chamber, a refrigerating system associated with said cabinet including an evaporator for cooling said chamber to a temperature below 32° F., a freezing device normally disposed in said chamber and exposed to the low temperature of said evaporator, said freezing device comprising a tray and walls locked therein against detachment therefrom and anchored thereto for shifting movement relative to the tray. . . .

2,882,701. REFRIGERATING APPARATUS HAVING COLD AIR JACKET. Corless B. Nelson, Chicago, and John M. Smidl, Wheaton, Ill., assignors to General Motors Corp., Detroit, Mich.

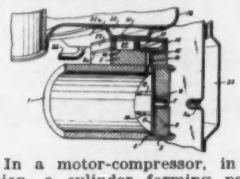
1. In a refrigerated car; means forming a lading storage space having a wall structure comprising an outer metallic sheet, a layer of polyester polyisocyanate foam type insulation bonded to said outer sheet, and an intermediate metallic sheet bonded to said insulation; an inner shell having portions spaced from said wall structure to form with said wall structure a closed air space surrounding said inner shell; means including an evaporator for refrigerating air; means including a fan for circulating said air in thermal exchange relationship with said evaporator and thereafter through said air space in a closed circuit. . . .

2,882,996. COOLING TOWER MIST ELIMINATOR. William D. Lanier, Garden Grove, and Robert L. Solnick, Whittier, Calif., assignors to The Fluor Corp., Ltd., Los Angeles, Calif.



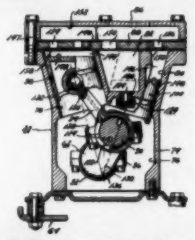
1. In an induced draft water cooling tower having a vertically extending cooling chamber within which water is passed downwardly in contact with upwardly displaced air, a moisture detraining assembly including a stack above said chamber, the lower portion of the stack being enlarged and tapering upwardly above the chamber to the reduced upper remainder of the stack thereby forming an enlarged stack entrance zone directly overlying the chamber, a fan within the stack directly overlying said stack entrance zone and operating to displace air from said chamber upwardly through the stack with velocity in said entrance zone less than air velocity in the upper remainder of the stack and greater than air velocity in the tower chamber. . . .

2,883,099. MOTOR-COMPRESSOR. Rudolf Hintze, Neuenhain uber Bad Soden (Taunus), Germany, assignor to Stempel-Hermetik G.m.b.H., Frankfurt am Main, Germany.



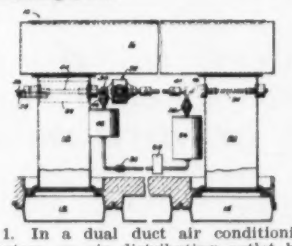
1. In a motor-compressor, in combination, a cylinder forming part of the compressor and having as open end portion of lesser wall thickness than the remainder of said cylinder joined to the remainder of said cylinder by a shoulder in the interior of said cylinder; an end wall surrounded by said open end portion of lesser thickness of said cylinder and closing said open end portion of said cylinder, said end wall being spaced from said shoulder; a sealing disc located between and engaging said end wall and said shoulder. . . .

2,883,100. REFRIGERATING APPARATUS. Donald G. Harter, Bloomfield Township, Oakland County, Mich., assignor to American Motors Corp., Detroit, Mich.



1. A fluid compressor for refrigerating apparatus comprising a casting having a crankcase and cylinders formed therein with said cylinders in a V arrangement, said casting having a flat planular top wall surface through which said cylinders extend obliquely, a single flat planular cylinder head secured to said planular top surface to close said cylinders, a valve plate secured between said planular top surface and said cylinder head, a suction chamber and a discharge chamber formed in said cylinder head, inlet and outlet ports provided in said valve plate to each of said cylinders in communication with said suction and discharge chambers. . . .

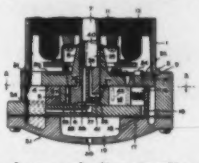
2,883,111. DAMPER CONTROL APPARATUS FOR DUAL DUCT AIR CONDITIONING SYSTEM. Bernard E. Curran and Glenn E. Kautz, Sewickley, Pa., assignors to H. H. Robertson Co., Pittsburgh, Pa.



1. In a dual duct air conditioning system, an air distributing outlet box having dual inlet ducts adapted for connection to dual air supply ducts, a damper in each inlet duct, said dampers being disposed at right angles to each other under one set of conditions, thermostatically controlled means for operating said dampers under said one set of conditions to effect closing of one damper while the other damper is opening. . . .

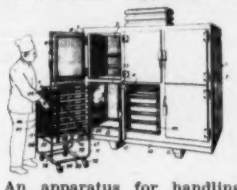
2,883,101. ROTARY COMPRESSOR. Milton M. Kosfeld, Louisville, Ky., assignor to General Electric Co., a corporation of New York.

A hermetically sealed rotary refrigerant compressor comprising a hermetic casing containing a low pressure refrigerant vapor, a motor positioned in the upper portion of said casing, a compressor unit positioned in the lower portion of said casing and including a cylindrical compression chamber, a rotor eccentrically rotatable within



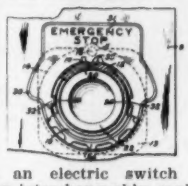
said chamber, a shaft extending downwardly from said motor into said compressor unit, an eccentric portion on said shaft extending into said rotor for driving said rotor during rotation of said shaft. . . .

2,883,253. APPARATUS FOR HANDLING AND STORING PREPARED FOODS. Chester K. Litman, Kansas City, Mo., assignor to Koch Refrigerators, Inc., Kansas City, Kan.



1. An apparatus for handling and storing foods in a refrigerator of the type having a compartment and a door opening into said compartment and spaced above the level of the floor on which the refrigerator is supported, said apparatus including spaced apart track members having support within said compartment near the sides thereof and extending from said door opening rearwardly into the compartment, a rack having an open front and provided with a base for sliding support upon said track members and having pairs of spaced apart guide members extending from said open front to the rear of the compartment. . . .

2,883,496. ELECTRIC SWITCH ACTUATOR MOUNTING. Paul F. White, Glen Ellyn, Ill., assignor to Furnas Electric Co., Batavia, Ill.



1. In an electric switch actuator mounting interchangeably applicable to support panels either of the type having actuator receiving openings and a hole separated from the periphery of each opening or of the type having actuator receiving openings each provided with an adjoining peripheral notch. . . .

NAPC Names Singleton As Jurisdictional Dispute Board Member

WASHINGTON, D. C. — Appointment of William H. Singleton, president of the William H. Singleton, Co., Inc., northern Virginia plumbing, heating, and air conditioning contractor, as a regular member of the National Joint Board for Jurisdictional Disputes in the Construction Industry, has been announced by the National Association of Plumbing Contractors.

Singleton will also represent the Mechanical Contractors Association of America on the Board. He replaces Henry Norair of Washington, D. C., who resigned the post he held since March, 1959, because of the press of business.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

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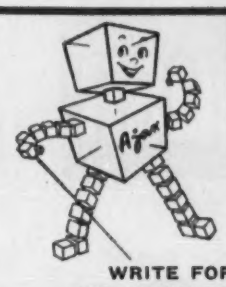

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ENGINEER REFRIGERATION Controls—To head a department on design and development of commercial refrigeration control valves of all types; national corporation with midwestern manufacturing and engineering facility; salary and bonus commensurate with work background and ability. Send full details, qualifications and personal data to BOX A6172, Air Conditioning, Heating & Refrigeration News.

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SALES ENGINEER for OEM Coil Department in home office of midwest manufacturer. M.E. degree or equivalent. Send complete resume to BOX A6323, Air Conditioning, Heating & Refrigeration News.

CABINET DESIGN & development engineer for commercial refrigeration manufacturer in Southeast. Experience with display cases desired. Please submit resume of qualifications and expected salary to BOX A6325, Air Conditioning, Heating & Refrigeration News. All replies held confidential.

REFRIGERATION SERVICE man to take complete charge of refrigeration for multi-plant midwestern food processor. Freon equipment. Experience with industrial size equipment essential. Lifetime job with progressive, expanding company for dependable man who can handle responsibility. All replies confidential. Send full details to BOX A6327, Air Conditioning, Heating & Refrigeration News.

REFRIGERATION AND air conditioning serviceman needed for yearround work in Yosemite Park. $2.75 hourly rate, 40 hour week, time and one-half overtime, two weeks paid vacation, insurance, hospitalization, retirement. Ideal for man and wife. Reasonable rent. Jess Crowe, Electric Foreman, Maintenance Dept., YOSEMITE PARK and CURRY COMPANY, Yosemite National Park, California.

AN OPPORTUNITY—If you are in refrigeration production now—tops in experience, used to turning out quality merchandise with the right kind of operation price tag attached, then you are the man we are looking for. If you are not entirely satisfied with your present position—if you are looking for a connection with a fast-growing organization, with tremendous possibilities for the tomorrows, then we would like to hear from you. You need not be the "top man"—next to the "top man" will do, if you have the experience. And age isn't too important. We want a man with the "know-how" and the ability. And if you're that man, we'd like to hear from you. Give us all the details. PERCIVAL REFRIGERATION & MFG. COMPANY, Boone, Iowa. Attention: Mr. C. E. Erickson.

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